DRAFT Environmental Field Investigation Report for Boeing Tract 1 South Property Hazelwood, Missouri Facility

Prepared for:

McDonnell Douglas Corporation

(A wholly-owned subsidiary of The Boeing Company)

St. Louis, Missouri

Prepared by:



MACTEC Engineering and Consulting, Inc. (f/k/a Harding ESE, Inc.) St. Louis, Missouri

January 10, 2003

MACTEC Project No. 510200-0200

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Analytical Laboratory Reports and Chain-of-Custody Forms

List of Abbreviations and Acronyms

AST aboveground storage tank bgs below ground surface Boeing The Boeing Company

BTEX benzene, toluene, ethylbenzene, and total xylenes

CALM Cleanup Levels for Missouri
COCs constituents of concern
DOT Department of Transportation
DROs Diesel Range Organics

DROs Diesel Range Organics
DQOs data quality objectives

ESE Environmental Science and Engineering, Inc.

ITLsinvestigation threshold levelsMCLsMaximum Contaminant LevelsMDCMcDonnell Douglas Corporation

MDNR Missouri Department of Natural Resources

μg/kg micrograms per kilogram
μg/L micrograms per liter
MTBE methyl tert butyl ether

No. Number

OD outside diameter

PAHs polynuclear aromatic hydrocarbons

PCE tetrachloroethene
PID photoionization
ppm parts per million

PRGs Preliminary Remediation Goals

PVC polyvinyl chloride

RCRA Resource Conservation and Recovery Act

RFA RCRA Facility Assessment
SLAPS St. Louis Airport Site
SOW Statement of Work

SWMU Solid Waste Management Unit

TCE trichloroethene

TPH total petroleum hydrocarbons
USCS Unified Soil Classification System
USEPA U.S. Environmental Protection Agency

UST underground storage tank VOCs volatile organic compounds

1.0 Introduction

This document, prepared by MACTEC Engineering and Consulting, Inc. (f/k/a Harding ESE, Inc.) for McDonnell Douglas Corporation (MDC), a wholly-owned subsidiary of The Boeing Company (Boeing), presents the results of implementation of the Environmental Field Investigation Statement of Work (SOW) for field investigation activities conducted at portions of the Tract 1 South Property at the Boeing-St. Louis facility that have been sold to the City of St. Louis (Site). The Site is located in Hazelwood, Missouri. Figure 1-1 displays the location of the Site.

1.1 Purpose

The purpose of the Environmental Field Investigation was to characterize the nature of any hazardous waste/constituent releases to soil or groundwater at the Site. Based on implementation of the SOW this report presents the findings of the Environmental Field Investigation and identifies hazardous waste/constituent impacts to soil and groundwater at the Site.

1.2 Environmental Field Investigation Report Organization

The Environmental Field Investigation Report is divided into six sections of text plus three appendices. A brief description of each section is presented below.

- Section 1.0, Introduction, provides background information regarding the regulatory requirements for the Site, purpose of this report, and contents of this report.
- Section 2.0. Site Background Information, references background information regarding the Site and its environmental setting.
- Section 3.0, Objectives and Supporting Data Requirements, summarizes the site-specific
 investigation objectives, identifies the target constituents and associated investigation threshold
 levels (ITLs) for the Environmental Field Investigation, and describes the established data quality
 objectives for the investigation.
- Section 4.0, Environmental Field Investigation Activities, summarizes the field activities and describes the procedures that were utilized for all field sampling and laboratory analysis tasks.
- Section 5.0, Environmental Field Investigation Results, summarizes the geological, hydrogeological, and analytical results of the Environmental Field Investigation.
- Section 6.0, References, provides a list of references used within the text of this Environmental Field Investigation report.

Three appendices are also provided to describe associated Environmental Field Investigation activities. Appendices to this document are identified below.

- Appendix A Soil Boring Logs
- Appendix B Groundwater Sampling Field Record Forms
- Appendix C Analytical Laboratory Reports and Chain-of-Custody Forms

2.0 Site Background Information

This section of the Environmental Field Investigation report presents background information pertaining to the operational history and environmental setting for the Site.

2.1 Site Location

The Site is located at the north side of Lambert International Airport. It is bounded on the north by Banshee Road. The Site is located in the northwest quarter of Section 5, Township 46 North, Range 6 East, St. Louis County, Missouri (Figure 2-1).

2.2 Site Operations

Boeing manufactures combat aircraft, transport aircraft, and space systems/missiles. The Site includes a majority of the buildings and property that were previously referred to as Tract 1 South. Several large aircraft manufacturing buildings (Buildings 2, 42, and 45) are included within the Site.

Manufacturing processes within these buildings utilize various hydraulic/lubricating oils, fuels, paints, cleaning solvents, acids, and bases as part of their ongoing operations. Underground storage tanks (USTs), aboveground storage tanks (ASTs), and drums have been typically used to store chemical products/wastes inside and outside of the buildings. Areas between the buildings are largely paved and used for a variety of transportation purposes including aircraft ramps, inter-building truck/forklift traffic, parking, and pedestrian traffic.

Access to the Site is strictly controlled. The Site is surrounded by a chain-link fence and is patrolled by a security force 24 hours a day, 365 days per year. Employees and visitors must pass through security gates at the main entrance to the Site before entering any building. The security force employs approximately 225 persons, and an on-site fire department employs approximately 30 persons.

2.3 Environmental Setting

A preliminary evaluation of the environmental setting at the Site was prepared during the development of the Environmental Field Investigation SOW to better understand the framework for migration of any potential constituent releases and the potential effects on human health and the environment. This information is presented below.

2.3.1 General Setting

The Site is surrounded by other aircraft component manufacturing operations on the north and airport runways and taxiways on the south, west, and east. According to information obtained from the Missouri Department of Natural Resources (MDNR), Division of Geology and Land Survey, no wells are located within a 1.5-mile radius of the Site [U.S. Environmental Protection Agency (USEPA), 1995]. Surface water from the Site drains to storm sewers that discharge into Coldwater Creek which is contained in a covered culvert that extends beneath the east edge of the Site and the airport to the south.

2.3.2 Geology

Subsurface geologic units in the area of the Site include wind or lake-deposited sediments (unconsolidated deposits) overlying nearly flat-lying sedimentary bedrock formations. These deposits may be up to 100 feet thick and consist of clay, silty clay, and some sand (Lutzen and Rockaway, 1971).

Unconsolidated deposits in the area of the Site have been delineated by previous hydrogeologic studies conducted at the Site and adjoining former Boeing operations [ATEC, 1990, Riedel, 1995, Environmental Science and Engineering, Inc. (ESE), 2000, Harding ESE 2002a] and the St. Louis Airport Site (SLAPS) which adjoins the northeast corner of the Site along Coldwater Creek. The uppermost unconsolidated deposits consist of interbedded clay, silty clay, and clayey silt with some fine-grained sand and organic matter. A dense, plastic, brown to gray-green clay unit is present with occasional interbedded silty deposits to a depth of 70 to 80 feet below ground surface (bgs).

In areas at the adjacent facilities up to 14 feet of clayey silt or silty clay fill material is present over the unconsolidated sequence. The fill material is composed of material either excavated at the site or brought in as clean fill during plant construction and modification activities.

The uppermost bedrock encountered in the area of the Site is the undifferentiated Pleasanton, Marmaton, and Cherokee Groups of Pennsylvanian age. Shales, siltstones, sandstones, coal beds, and thin limestone beds are the dominant lithology of these three groups. Regionally, the Pennsylvanian-age groups have a total thickness ranging from 10 to 300 feet.

Underlying the Pennsylvanian strata is Mississippian-age limestone. The Ste, Genevieve Formation (0 to 160 feet thick), St. Louis Limestone (0 to 180 feet thick), Salem Formation (0 to 180 feet thick), and Warsaw Formation (0 to 110 feet thick) are all limestone and compose the upper portion of the Mississippian-age bedrock.

2.3.3 Hydrogeology

Water supplies in the St. Louis area are obtained from the Mississippi, Missouri, and Meramec Rivers. Approximately 82 percent of the water supply is pumped from the Mississippi River, while approximately 12 percent is pumped from the Missouri River and Meramec River combined (Miller et al., 1974). Aquifers exist in both the bedrock and unconsolidated deposits along the Mississippi and Missouri Rivers. These aquifers account for approximately 3 percent of the water supply (Miller et al., 1974).

As stated above, the Site is underlain by 70+ feet of low permeability clay and silt. Because of the low permeability of these units, groundwater quantities are generally low. Previous investigations at the Site and adjoining Boeing operations indicate that shallow groundwater is generally encountered between 5 and 12 feet bgs. However, shallow groundwater depths have been variably noted from 2 and 15 ft bgs depending upon the specific Site location.

The shallow groundwater table may be modified locally at the Site due to the presence of buildings or parking lots. Overall, the shallow groundwater flow direction is expected to flow to the east toward Coldwater Creek or ditches draining into this creek. Given the low permeability and thickness of the unconsolidated deposits underlying the Site, direct connection to deeper, bedrock aquifers is not expected.

2.3.4 Surface Water Hydrogeology

General surface water drainage at the Site is by overland flow to storm sewer intakes located across the Site or to open drainage ditches that drain to storm sewers. The storm sewers discharge into Coldwater Creek at several locations. Coldwater Creek flows northeast within an underground culvert from the southwest side of Lambert-St. Louis International Airport, across the central portion of the airport, and the easternmost part of Tract 1 South. The creek flows within an open culvert north of Banshee Road along the eastern boundary of Tract 1 North. Coldwater Creek then flows northeast within this open culvert for several miles until it rejoins its original channel. The creek eventually discharges into the Missouri River. At its closest point, the Missouri River is approximately 3 miles to the northwest of the Site.

Presently, over 95 percent of the surface area at the Site is covered with buildings, paved streets, paved parking lots, tank areas, and docks. Several of the aboveground structures associated with discontinued processes have been demolished, although concrete at or below grade remains. An extensive network of utilities including potable and service water lines, storm sewers, sanitary sewers, and other utilities (typical of an industrial facility) is located underground.

2.3.5 Additional Sources of Background Information

Historic evaluations of the geology and hydrogeology at the Site and surrounding former Boeing operations have been conducted as part of previous investigations to better understand the framework for migration of any potential constituent releases and the potential effects on human health and the environment. Prior reports entitled McDonnell Douglas Corporation Resource Conservation and Recovery Act (RCRA) Closure Activities, Building 14: Sludge Holding Tank Site (Riedel, 1995) and Annual Monitoring Report for SWMU No. 17 (Harding ESE, 2002a) should be referenced for additional information pertaining to the environmental setting at the Site.

3.0 Objectives and Supporting Data Requirements

An investigation to delineate the nature and extent of any releases at the Site requires various types and amounts of information. Specific investigation approaches, methodologies, and data are required to facilitate the investigation process. This section of the document summarizes the general strategy presented in the Environmental Field Investigation Statement of Work (Harding ESE, 2002b) for collection of the data needed to achieve the investigation objectives at the Site.

3.1 Project Objectives

The objective of the Environmental Field Investigation was to characterize the nature of any hazardous waste/constituent releases to soil or groundwater at the Site.

- Describe the nature and extent of any releases of hazardous constituents/waste associated with the Site: and
- Gather necessary data to support future investigation, risk assessment, and/or remediation requirements (if necessary).

3.2 Data Needs and Usage

Based on a review of previous investigation results and an evaluation of site-wide conditions, the SOW presented a plan to characterize/delineate the nature and extent of any subsurface soil/groundwater impacts at the Site. The SOW identified soil and groundwater sampling locations across the Site where constituents of concern (COCs) were most likely to be found based on historical knowledge, prior investigation results, hazardous constituents/waste managed at the various areas, and field screening criteria (visual observations and portable instrument screening).

Ten areas were identified in the SOW for investigation. These areas were:

- Solid Waste Management Unit (SWMU) Number (No.) 17;
- UST Site #3:
- Former Drum Storage Area Adjacent to Building 40;
- UST Site #2;
- UST Site #4;
- Tank Farm and Paint/Solvent Storage Area at Building 41;
- Paint Accumulation Area West of Building 2;
- Industrial Sewer Line Area:
- UST Area between Buildings 4 and 5; and
- Shooting Range Bunker Areas.

Figure 3-1 displays significant features of the Site and the locations the areas investigated. A total of 36 soil borings were proposed to be installed in these areas. Soil samples and groundwater samples were to be collected from each of these soil borings, along with groundwater samples from four existing monitoring wells. In addition, Site-wide groundwater monitoring activities were proposed to determine

groundwater flow direction and gradients. Table 3-1 presents a summary of the planned sampling and analysis parameters from the Addendum to the SOW.

3.3 Data Quality Objectives

The intended use of the various data types was evaluated to establish appropriate data quality objectives (DQOs). A summary of this evaluation is provided below.

The following DQO levels were deemed appropriate:

- DQO Level I was deemed appropriate to conduct screening and acquire data for basic site characterization (e.g., pH, temperature, specific conductance, water level elevations, physical descriptions, photoionization (PID) readings, and other similar geologic/hydrogeologic information).
 Specifically, the data acquired under DQO Level I were used to
 - detect changes in groundwater characteristics.
 - develop groundwater elevation isopleth maps and evaluate groundwater flow gradients,
 - · describe basic physical properties of investigated media, and
 - verify adequate purging of monitoring wells.
- 2. DQO Level III was deemed appropriate for soil and groundwater sample analyses. The data acquired under DQO Level III was used to characterize constituent concentrations in various media and delineate the nature/extent of any releases of hazardous wastes/constituents. These data may also be used to determine soil/groundwater clean-up objectives, support a risk assessment, and support engineering evaluations necessary to select and design corrective measures, if required.

3.4 Investigation Threshold Levels (ITLs)

ITLs were developed in the SOW to aid in the determination of whether additional field investigations, site-specific risk assessments, and/or remediation efforts are warranted. ITLs were utilized during this Environmental Field Investigation as a comparative baseline for site-specific analytical results (e.g., to determine whether a release to soil has been delineated or assess whether groundwater impacts are present). For the purposes of this Environmental Field Investigation, ITLs represent values which incorporate both risk-based action levels and regulatory levels. As a result, the comparative process for analytical results is simplified. Similar ITLs were developed and used in connection with investigation of the Fabrication Operations property immediately north of the Site. The ITLs to be used for this Environmental Field Investigation incorporate changes in MDNR and USEPA risk-based action levels.

Per the SOW, if unanticipated additional constituents were encountered during the Environmental Field Investigation, they would be added to the pertinent ITL table(s) using the same criteria. During the Environmental Field Investigation, nine constituents not included on the ITL tables in the SOW were detected (eight soil, one groundwater). The soil and groundwater ITLs are presented in Tables 3-2 and 3-3, respectively, amended to include these additional detected constituents. These tables also include the relevant Cleanup Levels for Missouri (CALM)-based criteria, Maximum Contaminant Levels (MCLs), and Preliminary Remediation Goals (PRGs), as appropriate.

4.0 Environmental Field Investigation Activities

This section summarizes Environmental Field Investigation activities conducted in November 2002 to evaluate potential environmental impacts at the Site. These activities included: soil boring installations, soil sampling and analyses, temporary piezometer completion, and groundwater monitoring, sampling, and analyses (shallow and deep water-bearing units). The field activities were completed on a site-specific basis for both soil and groundwater purposes. Existing groundwater monitoring wells were also utilized to assist in the assessment of groundwater conditions on a Site-wide basis.

Environmental Field Investigation field activities were completed on a location-specific basis in accordance with the guidelines specified in the SOW dated September 27, 2002 and the Statement of Work Addendum dated November 1, 2002. Deviations from the SOW and Addendum to the SOW are discussed in Section 4.6. The following is a general chronology of field activities:

- 1. Sampling of four existing groundwater monitoring wells at the Site and monitoring of groundwater elevation;
- 2. Installation of 51 investigative soil borings to assess geological and hydrogeological conditions beneath the Site;
- 3. Sampling of subsurface soils utilizing continuous collection methods;
- 4. Collection of subsurface soil samples for field screening and laboratory analyses;
- 5. Installation of 51 temporary piezometers to assess hydrogeological conditions beneath the Site;
- 6. Collection of groundwater samples for field screening and laboratory analyses; and
- 7. Surveying of soil boring and monitoring well locations.

4.1 Installation of Soil Borings

Soil borings were installed at various locations to evaluate the nature and extent of any hazardous constituent or hazardous waste releases to soils at the Site. The soil boring activities were also completed to further evaluate the geological and hydrogeological systems at the Site.

Under the supervision of MACTEC field personnel, subsurface investigative activities were conducted by Roberts Environmental Drilling, Inc. of Millstadt, Illinois between November 7 and 22, 2002. Soil boring activities were completed using a track-mounted (GeoProbe® Model 6610DT) hydraulic probe rig.

For the shallow sampling locations, soil borings were installed using standard direct push soil probe methodology. Direct push soil borings completed with the Geoprobe® rig were advanced using a 2.0-inch outside diameter (OD) macro-core sampler and 1.25-inch OD steel probing rods.

Specialized Geoprobe® sampling equipment was used to evaluate deep soil and groundwater conditions for eight locations beneath the shallow water-bearing unit at the Site. A dual tube sampler was used to eliminate potential cross-contamination between the shallow water-bearing unit and the underlying clay unit. Two sets of probe rods were used to collect continuous soil samples as follows:

- 1. The outer set of 2.125-inch OD rods was initially driven into the ground as a protective casing. These rods provide a sealed hole that eliminates the potential of any side slough and enables the collection of soil samples across a perched water table.
- 2. The second smaller set of 1.0-inch OD rods were then placed inside of the outer casing. The smaller rods hold a sample liner in place as the outer casing is driven one sampling interval.
- 3. The smaller rods were then retracted to collect the soil sample from the filled liner.

Prior to drilling at the initial and all subsequent borings, ancillary rig equipment was cleaned to eliminate cross-contamination between successive drilling locations. The soil sampling rods and samplers were cleaned/detergent washed between sampling locations.

Continuous soil samples were collected from each boring for field screening, lithographic description, and subsequent chemical analysis. Each disposable sampling tube liner was opened and immediately scanned with a PID to identify potential presence of volatile organic compounds (VOCs). To maintain lithographic descriptive consistency, each soil sample was described and classified in accordance with the Unified Soil Classification System (USCS).

Upon completion of probing and groundwater sampling, each shallow soil boring was filled with granular bentonite and the surface asphalt or concrete was repaired. Soil cuttings generated were containerized in 55-gallon Department of Transportation (DOT)-approved drums for subsequent management by Boeing.

A biased sampling approach was used to locate soil sampling locations at each of the designated areas. The approximate locations, number of samples, and analyses were determined using the following criteria:

- guidelines specified in the SOW and the SOW Addendum;
- historic operations performed at a specified area;
- soil boring and analytical results from prior site investigations;
- hazardous wastes or hazardous constituents managed; and
- field conditions (e.g., staining, PID readings, obstructions, etc.).

4.2 Soil Sampling and Analysis

Soil samples were collected from each boring (with the exception of certain deep boring as detailed in Section 4.6) to evaluate the nature and extent of any hazardous constituent or hazardous waste releases to soils at the Site. Soil sampling activities were also completed to further evaluate the geological and hydrogeological systems beneath the Site. Continuous soil samples were collected from selected borings for field screening, lithographic description, and subsequent chemical analysis.

Each soil sample was screened in the field with a PID for total organic vapors by the headspace method. This process involved placing a portion of the soil sample into a resealable plastic bag and allowing time for volatilization, if any, to occur. The PID probe was then inserted into the plastic bag. The highest PID reading measured for the initial 10-second period was recorded on the boring log form in units of parts per million (ppm).

All field screening equipment was calibrated a minimum of once per day during field efforts. Instrument calibration was performed in accordance with the manufacturers' recommended procedures using commercially available calibration standards.

Selected soil samples collected during the Environmental Field Investigation field activities were submitted for laboratory analysis. Samples were collected per the specifications in the approved SOW and the supplemental Addendum to the SOW.

Duplicate samples were collected and analyzed in accordance with the SOW. The soil duplicate samples were analyzed for location-specific parameters.

Samples were collected into sample containers which were pre-cleaned and assembled to USEPA's Protocol "B". The volume of sample collected and the type of container used was determined by the suggested volumes described in SW-846 for the particular analysis.

Immediately upon collection, each sample was properly labeled to prevent misidentification. After labeling, the samples were placed into an appropriate storage container. Samples collected for organic analysis were placed into a storage container with sufficient ice or ice packs to preserve samples during transport to the laboratory. The samples were appropriately packaged in the storage container to minimize the potential for damage during transport. A completed chain-of-custody form was placed in each storage container to accompany the samples to the laboratory.

The sample containers were hand delivered to the mobile laboratory (Mid-America Environmental) onsite for analysis or shipped via overnight courier to Environmental Science Corporation in Mt. Juliet, Tennessee. Samples were shipped to the off-site laboratory so that they were received within 24 hours from the time of shipment. Strict chain-of-custody procedures were maintained during sample handling.

A chain-of-custody program was followed to track the possession and handling of individual samples from time of collection through completion of laboratory analysis. Copies of the chain-of-custody record were retained in the permanent file for proper documentation.

Soil samples were analyzed for location-specific parameters in accordance with the guidelines specified in the SOW and the Addendum to the SOW. Analytical results for the soil samples are provided in Section 5.0.

4.3 Installation of Temporary Piezometers

Temporary piezometers installed within the shallow groundwater unit (generally 12-24 ft bgs) were constructed of 1-inch diameter; polyvinyl chloride (PVC) with flush-threaded joints was placed within the open borehole of each shallow boring (43 in total). Six-foot screen sections were utilized at the bottom of each piezometer. The piezometer material was new, decontaminated well material contained in individually sealed plastic bags.

Special installation procedures were utilized for all deep temporary piezometers to ensure that cross-contamination did not occur between the shallow and deep water-bearing units. Each deep piezometer was constructed using 10 feet of screen set through the inside of the Dual Tube sampling system. The Dual Tube casing was then retracted 10 to 15 feet to expose the well screen.

4.4 Groundwater Monitoring

Groundwater monitoring activities were subsequently performed to acquire groundwater quality/elevation data for each of the piezometers and monitoring wells.

Water level measurements were performed using an electronic water level probe and measured to the nearest 1/100th foot. Data were recorded on a standard monitoring form.

Prior to the collection of groundwater samples, each piezometer not sampled within 30 minutes of installation was purged by removing a minimum of one well casing volume of groundwater with a disposable polyethylene bailer. Piezometers sampled within 30 minutes of installation were sampled without purging.

Samples were collected using a disposable polyethylene bottom-loading bailer using appropriate collection procedures as specified in the SOW.

Shallow groundwater monitoring wells were purged using a disposable polyethylene bailer. Each shallow well was purged by removing a minimum of three well volumes. Samples were then collected using a disposable polyethylene bottom-loading bailer and using appropriate collection procedures as specified in the SOW.

Duplicate samples were collected and analyzed in accordance with the SOW. The duplicate samples were analyzed for location-specific parameters.

The sample containers were hand delivered to the mobile laboratory (Mid-America Environmental) onsite for analysis or shipped via overnight courier to Environmental Science Corporation in Mt. Juliet, Tennessee. Samples were shipped to the off-site laboratory so that they were received within 24 hours from the time of shipment. Strict chain-of-custody procedures were maintained during sample handling. A chain-of-custody program was followed to track the possession and handling of individual samples from time of collection through completion of laboratory analysis. Copies of the chain-of-custody record were retained in the permanent file for proper documentation.

Groundwater samples were analyzed for location-specific parameters in accordance with the guidelines specified in the SOW and the Addendum to the SOW. Analytical results for the groundwater samples are provided in Section 5.0.

4.5 Soil Boring and Sample Designations

All soil borings installed during the Environmental Field Investigation were designated by location and direction from the nearest building. For example, the first soil boring installed east of Building 40 was designated B40E1. The first soil boring installed inside Building 48 was designated B48I1. Soil samples collected from each boring were identified by probe location and sample depth. For example, the soil sample collected from probe B40E1 at a depth of 6 feet bgs was designated as B40E1-6. Groundwater samples collected from temporary piezometers were designated with a "W" at the end of the boring number, i.e. a groundwater sample collected from B40E1was designated B40E1W. Deep borings were identified with a "D" at the end of the boring number (i.e., the deep soil boring east of Building 41 was designated B41E1D).

4.6 Deviations from Statement of Work

4.6.1 Deep Soil Borings

Deep soil borings were installed using a Geoprobe® probe rig instead of a drilling rig with hollow stem augurs. Dual tube sampling system (described in Section 4.1) was utilized because it provides a seal of the upper groundwater bearing zone (the driven outer casing seals off the inner casing through which soil samples are collected and the temporary piezometer is installed). This methodology limited the potential for cross contamination of the lower zone by the upper zone, something that hollow stem augers have a limited ability to prevent.

Because of the geologic conditions encountered at the Site, specifically tight, expansive clay soils below 20 feet bgs, soil samples were collected from only four of the eight deep borings installed. Soil samples for lithology were collected from one deep boring per area of the Site. The expansive clay resulted in several instances of the sampler tube becoming disconnected from the sampling rod, which prevented the boring from being advanced further. This occurred in the first deep boring installed, B41S3D, at a depth of 48 feet bgs. The boring was grouted closed and a new boring completed several feet away by advancing the dual tube system with a expendable stainless steel point that sealed the inner casing until the refusal on bedrock was reached and the inner casing was retracted between 10 and 15 feet to allow the piezometer to be installed and collect groundwater. This methodology was repeated at the four other deep borings from which soil sample were not collected.

Because of the proximity of the boring locations to each other, only one deep boring was installed at the UST Area between Buildings 4 and 5. The other planned deep boring was completed as a shallow boring from which soil and groundwater samples were collected.

For consistency in sampling the deep groundwater all deep borings were advanced to probe refusal on bedrock, instead of stopping at an arbitrary depth of 60 feet bgs. Refusal was encountered between 74 and 79 feet bgs. The exception to this was boring B45CS3D which was stopped at 66 feet bgs due to irretrievable loss of the sampler. Since the boring was within 10 feet of the expected total depth based on the other nearby deep borings, the temporary piezometer was installed at that depth.

Because of detections in groundwater sample from Monitoring Well MW-5 and the boring north of Building 41, a shallow groundwater sample was collected by installing a shallow soil boring adjacent to the deep soil boring at the Building 41 Area (B41E1D).

4.6.2 Step Out Sampling

Based on the detections above ITLs in the groundwater sample from the boring located north of Building 41 (B41N1), existing Monitoring Well MW-18 was sampled. This well is located approximately 150 feet west (upgradient) of the boring. Additional step out locations in the area north of Building 41 were limited because of the proximity of underground utility and petroleum fuel system lines. Soil borings B2N1 and B2N2 (Industrial Sewer Area) were located approximately 125 and 175 feet east (downgradient), respectively of this boring.

Step outs for Industrial Sewer Area were conducted at 50 foot intervals instead of 25 foot intervals. The rational for this was the probable preferential pathway created by the industrial sewer and adjacent natural gas line.

Step out from Monitoring Well MW-5 was 50 foot instead of 25 feet intervals based on the detections in nearby borings B2W1 and B2I1.

Step out for the UST Site #2 was increased to 100 feet and additional step out borings were not completed because results indicated that constituents above ITLs likely extended along the fuel hydrant system into the UST Site #4 area.

Step out from UST Site #4 were increased to 50 and 75 feet and then to the end of the fuel hydrant lines (approximately 275 feet) because the results indicated that constituents above ITLs likely extended along the fuel hydrant system.

5.0 Environmental Field Investigation Results

This section discusses the geological, hydrogeological, and chemical analysis results of the Environmental Field Investigation and characterizes the nature and extent of hazardous waste/constituent releases at the Site.

Section 5.1 summarizes the geological and hydrogeological results acquired from the Environmental Field Investigation activities. Based on the general similarities of the geological/hydrogeological conditions across the Site, these results are presented on a Site-wide perspective. Copies of the soil boring logs are provided in Appendix A. Copies of the groundwater sampling field record forms are provided in Appendix B and copies of the laboratory analytical reports and chain-of-custody documents are provided in Appendix C.

Sections 5.2 through 5.12 present the Environmental Field Investigation results on an area-specific basis. Applicable soil and/or groundwater analytical concentrations were compared with ITLs to characterize the nature and delineate the extent of any potential releases at each location. Figure 5-1 presents a map of the entire Site displaying boring locations and summary tables of soil analytical results from the Environmental Field Investigation. Figure 5-2 presents the Site map with groundwater analytical results summary tables from the Environmental Field Investigation.

5.1 Geological and Hydrogeological Results

Geological and hydrogeological information was acquired through an evaluation of the soil boring logs and groundwater elevation measurements that were conducted at the Site. Results are summarized below.

5.1.1 Geological Results

Site soil borings were completed as part of the Environmental Field Investigation to provide site-specific stratigraphic and hydrogeologic data. Soil boring data indicate the presence of four general soil stratigraphic units overlying the bedrock surface at the Site. These four general units are defined in descending order as the (1) Fill Unit, (2) Silty Clay Unit, (3) Silt Unit, and (4) Clay Unit.

Fill Unit

Soil boring data indicate that a heterogeneous Fill Unit overlies the native materials at some portions of the Site. Fill generally consisted of a mixture of materials either excavated at the site or brought in as clean fill during Site construction/modification activities. Unit thickness varied between the areas, but was typically less than 2 feet in thickness. For the majority of the Site evaluated in this Environmental Field Investigation, buildings and concrete/asphalt pavement overlie the Fill Unit.

Silty Clay Unit

Soil boring data indicate the presence of a Silty Clay Unit beneath the surface or the previously defined Fill Unit. These native materials generally consisted of olive-gray to reddish-brown, soft to stiff, silty clay. The silty clay often contained iron oxidation discoloration and numerous open, discontinuous

channels, which are likely vertical root scars. Unit thickness generally ranged from 7 to 14 feet. Groundwater was present in the Silty Clay Unit, perched on the underlying units, although depth to groundwater varied.

Silt Unit

Soil boring data indicate the presence of a distinct Silt Unit underlying the Silty Clay Unit in a majority of the borings. The native materials appear to be Lacustrine (lake-formed) in origin and are very thinly bedded with abundant organic debris (wood fragments and twigs). The silt is dark reddish-brown, medium stiff, and slightly moist. Unit thickness was generally between 1 to 3 feet. The top of the silt was observed at Tract 1 South between 4.5 and 16 feet bgs. In borings where the distinct Silt Unit was not observed, the silt content in the Silty Clay Unit increased between 5 and 15 feet bgs. Due to the low moisture content of the silt and the presence of perched groundwater in the overlying Silty Clay Unit, the Silt Unit and underlying Clay Unit appear to act as an aquitard.

Clay Unit

Soil boring data from the deep groundwater monitoring wells indicate the presence of a Clay Unit underlying the Silt Unit. These native materials generally consisted of light to dark gray, stiff to very stiff, plastic clay. This unit was generally encountered between 11.5 and 20 feet bgs and extended to the top of bedrock at a depth of between 70 and 80 feet bgs. Within 2 to 4 feet above the top of the bedrock surface, the Clay Unit graded into a silty clay to clayey silt with coarse gravel intermixed in the clay matrix.

Based on interpretations from the Site boring results, previous investigations, and regional geological information, the Sitt Unit and the Clay Unit are expected to be relatively uniform and continuous beneath the Site and immediately surrounding area. As such, the units serve as an aquitard beneath the Site, limiting vertical migration of groundwater.

5.1.2 Hydrogeological Results

Soil boring data also yielded information about the hydrogeological system beneath the Site. As previously indicated, shallow groundwater was typically encountered in the Silty Clay Unit. However, this material has little potential to produce water as exemplified by the difficulties in acquiring sufficient sample volumes from temporary piezometers installed during this field investigation.

Groundwater was encountered in the deep piezometers near the top of bedrock in all but one boring. Water did not collect in Boring B48S4D located at UST Site #2 after 17 hours; the piezometer pipe was dry when it was removed. In three of the deep borings (B45S1D, B45S5D, and B41S3D), only a few feet of water collected and could be quickly bailed dry. In the two deep boring at UST Site #3 approximately 20 feet of water collected and was slower to bail down compared to B45S1D and B45S5D. In the remaining two deep borings (B41E1D and B4E2D) water rose to within 12 feet of the surface. These water levels indicate that the deep water-bearing unit is under artesian conditions. Artesian conditions exist when the water level in a well rises above the top of the unit and are indicative of a confined water-

bearing unit. Similar conditions have been observed at the former Boeing Fabrication Operation Facility immediately north of the Site and at SWMU No. 17 (ESE, 2000, Harding ESE, 2002a). Water elevations in deep wells installed at the top of bedrock at these two sites are higher than the elevations in the adjacent shallow wells

5.1.3 Results of Site-Wide Groundwater Evaluation

Field measurements of depth to groundwater from six existing wells at the Site were utilized to evaluate the direction and gradient of shallow groundwater beneath the Site. Static water level data were collected from the monitoring well network on October 30, 2002. A groundwater elevation isopleth map for this monitoring event along with a table of the groundwater level measurements is displayed in Figure 5-3. The groundwater elevation isopleth map demonstrates general flow of groundwater toward the east/northeast. The northeast flow component indicated by the groundwater isopleths may be the result of the lack of data from the southeast corner of the Site. A very low groundwater flow gradient (approximately 0.0004 feet per foot) is also indicated.

5.2 Results for SWMU No. 17 Area

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the SWMU No. 17.

5.2.1 Analytical Results for Soil Samples from SWMU No. 17 Area

Analytical results for soil samples from the SWMU No. 17 Area were utilized to assess the horizontal extent of any impacted soils at this location.

Three soil borings (same as planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from each of the borings (B48N1, B48I1, and B48I2) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring locations are displayed in Figure 5-4. Table 5-1 presents a summary of analytical results for constituents detected in the soil samples from the SWMU No. 17 Area.

Soil samples were analyzed for VOCs by Method 8021 and for total petroleum hydrocarbons (TPH) by Method OA-2. No constituents were detected.

5.2.2 Analytical Results for Groundwater Samples from SWMU No. 17 Area

Analytical results for groundwater samples from the SWMU No. 17 Area were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the three temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. Soil boring/temporary piezometer locations are displayed in Figure 5-4. Table 5-2 presents a summary of analytical results for constituents detected in the groundwater samples from the SWMU No. 17 Area.

Soil samples were analyzed for VOCs by Method 8021 and for TPH by Method OA-2. No constituents were detected.

5.3 Results for UST Site #3

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the UST Site #3 Area.

5.3.1 Analytical Results for Soil Samples from UST Site #3

Analytical results for soil samples from the UST Site #3 Area were utilized to assess the horizontal and vertical extent of any impacted soils at this location.

Three soil borings (same as planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from Borings B45CS2 and B45CS3D and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Boring B45CS1D was probed to the top of bedrock without soil sampling. Soil boring locations are displayed in Figure 5-5. Table 5-3 presents a summary of analytical results for constituents detected in the soil samples from UST Site #3.

Soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tert butyl ether (MTBE), and volatile petroleum hydrocarbons (gasoline range TPH) by Method OA-1 and extractable petroleum hydrocarbons (diesel range TPH) by Method OA-2 or TPH-Diesel Range Organics (DRO). No constituents were detected.

5.3.2 Analytical Results for Groundwater Samples from UST Site #3

Analytical results for groundwater samples from the UST Site #3 Area were utilized to characterize the nature and horizontal and/or vertical extent of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the three temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. The boring/temporary piezometer locations are displayed in Figure 5-5. Table 5-4 presents a summary of analytical results for constituents detected in the groundwater samples from UST Site #3.

Soil samples were analyzed for BTEX, MTBE, and gasoline range TPH by Method OA-1 and diesel range TPH by Method OA-2 or TPH-DRO. No constituents were detected.

5.4 Results for Former Drum Storage Area Adjacent to Building 40

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the former drum storage area adjacent to Building 40.

5.4.1 Analytical Results for Soil Samples from Former Drum Storage Area Adjacent to Building 40

Analytical results for soil samples from the former drum storage area adjacent to Building 40 were utilized to assess the horizontal extent of any impacted soils at this location.

Five soil borings (same as planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from each of the borings (B40E1, B40E2, B40S1, B40S2, and B40W1) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring locations are displayed in Figure 5-5. Table 5-5 presents a summary of analytical results for constituents detected in the soil samples from the former drum storage area at Building 40.

Soil samples were analyzed for VOCs by Method 8021 and for TPH by Method OA-2. No constituents were detected.

5.4.2 Analytical Results for Groundwater Samples from Former Drum Storage Area Adjacent to Building 40

Analytical results for groundwater samples from the former drum storage area adjacent to Building 40 were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the five temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring/temporary piezometer locations are displayed in Figure 5-5. Table 5-6 presents a summary of analytical results for constituents detected in the groundwater samples from the former drum storage area at Building 40.

Soil samples were analyzed for VOCs by Method 8021 and for TPH by Method OA-2. No constituents were detected.

5.5 Results for UST Site #2

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the UST Site #2 Area.

5.5.1 Analytical Results for Soil Samples from UST Site #2

Analytical results for soil samples from UST Site #2 were utilized to assess the horizontal and vertical extent of any impacted soils at this location.

Ten soil borings (four planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from nine of the borings (B48S1, B48S2, B48S3, B48S5, B48S6, B48S7, B48S8, B48S9, and B48S10) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Boring B48S4D was probed to the top of bedrock without soil sampling. Soil boring locations are displayed in Figure 5-6. Table 5-7 presents a summary of analytical results for constituents detected in the soil samples from UST Site #2.

Soil samples were analyzed for BTEX, MTBE, and gasoline range TPH by Method OA-1 and diesel range TPH by Method OA-2 or TPH-DRO. Benzene was detected in four of the nine soil samples (B48S1-6, B48S3-10, B48S5-6, B48S8-7); each detection was above the ITL for benzene of 50 micrograms per kilogram (µg/kg). Toluene, ethylbenzene and/or total xylenes were detected in five of the nine soil samples (the four samples which had a benzene detection and soil sample B48S7-7). However, ITLs for these constituents were not exceeded. MTBE was not detected in the nine soil samples.

Gasoline range TPH was detected in five of the nine samples (B48S1-6, B48S3-10, B48S5-6, B48S7-7, and B48S8-7). Diesel range TPH was detected in three of the nine samples (B48S1-6, B48S9-8, and B48S10-7). Total TPH concentrations were above the ITL for TPH in the soil sample from B48S1.

A total of six step-out borings were completed in the downgradient and side gradient directions from borings with ITL exceedences. The outer ring of step-out borings (B48S6, B48S7, B48S9 and B48S10) were below ITLs for all constituents.

5.5.2 Analytical Results for Groundwater Samples from UST Site #2

Analytical results for groundwater samples from the UST Site #2 Area were utilized to characterize the nature and horizontal and/or vertical extent of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the eight of the nine temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Groundwater did not collect in the deep piezometer B48S4D after 17 hours. The soil boring/temporary piezometer locations are displayed in Figure 5-6. Table 5-8 presents a summary of analytical results for constituents detected in the groundwater samples from UST Site #2.

Soil samples were analyzed for BTEX, MTBE, and gasoline range TPH by Method OA-1 and diesel range TPH by Method OA-2 or TPH-DRO. Benzene was detected in seven of the nine groundwater samples (B48S1W, B48S2W, B48S3W, B48S5W, B48S7W, B48S8W and B48S9W). Six of the six detections were above the ITL for benzene of 5 micrograms per liter (µg/L). Toluene, ethylbenzene

and/or total xylenes were detected in four of the nine groundwater samples (B48S2W, B48S3W, B48S5W, and B48S7W). However, ITLs for these constituents were not exceeded. MTBE was detected in one of the groundwater samples (B48S2W) but at a concentration below the ITL.

Gasoline range TPH was detected in four of the nine samples (B48S2W, B48S3W, B48S5W, and B48S7W). Diesel range TPH was detected in two of the nine samples (B48S9W and B48S10). Total TPH concentrations were above the ITL for TPH in the groundwater samples from B48S5 and B48S7.

A total of six step-out borings were completed in the downgradient and side gradient directions from borings with ITL exceedences. The outer ring of step-out borings (B48S6, B48S9 and B48S10) were below ITLs for all constituents.

5.6 Results for UST Site #4

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the UST Site #4 Area.

5.6.1 Analytical Results for Soil Samples from UST Site #4

Analytical results for soil samples from UST Site #4 were utilized to assess the horizontal and vertical extent of any impacted soils at this location.

Eleven soil borings (five planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from nine of the borings (B45S2, B45S3, B45S4, B45S6, B45S7, B45S8, B45S9, B45S10, and B42S1) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. A duplicate soil sample from B45S2 was also submitted for analysis. Borings B45S1D and B45S5D were probed to the top of bedrock without soil sampling. Soil boring locations are displayed in Figure 5-6. Table 5-9 presents a summary of analytical results for constituents detected in the soil samples from UST Site #4.

Soil samples were analyzed for BTEX, MTBE, and gasoline range TPH by Method OA-1 and diesel range TPH by Method OA-2 or TPH-DRO. Benzene was detected in three of the nine soil borings (samples B48S2-7, B45S2-7 Duplicate, B45S3-7, and B45S10-6), each detection was above the ITL for benzene of $50 \mu g/kg$. Toluene and total xylenes were detected in these four samples and in the soil sample from B45S7. However, ITLs for these constituents were not exceeded. MTBE was not detected in the ten soil samples analyzed.

Gasoline range TPH was detected in six of the soil borings (samples B48S2-7, B45S2-7 Duplicate, B45S3-7, B45S4-7, B45S7-7, B45S8-6 and B45S10-6). Diesel range TPH was not detected in the ten soil samples analyzed. Total TPH concentrations were above the ITL for TPH in the soil sample from B45S3.

A total of six step-out borings were completed in the downgradient and side gradient directions from borings with ITL exceedences. Step-out boring B45S10 slightly exceeded the ITL for benzene (62 μg/kg vs. 50 μg/kg). Step-out borings B45S6, B45S7, B45S8, B45S9 and B42S1 were below ITLs for all constituents.

5.6.2 Analytical Results for Groundwater Samples from UST Site #4

Analytical results for groundwater samples from the UST Site #4 Area were utilized to characterize the nature and horizontal and/or vertical extent of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the each of the eleven temporary piezometers and two of the existing monitoring wells (MW-A22 and MW-A27) installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. A duplicate groundwater sample from B45S4 was also submitted for analysis. The soil boring/temporary piezometer locations are displayed in Figure 5-6. Table 5-10 presents a summary of analytical results for constituents detected in the groundwater samples from UST Site #4.

Soil samples were analyzed for BTEX, MTBE, and gasoline range TPH by Method OA-1 and diesel range TPH by Method OA-2 or TPH-DRO. Benzene was detected in four of the fourteen groundwater samples collected (B45S2W, B45S3W, B45S7W, and MW-A22). Three of the four detections were above the ITL for benzene of 5 μ g/L. Toluene, ethylbenzene and/or total xylenes were also detected in the four samples with benzene detections. Toluene was detected in the sample from B45S10. However, ITLs for toluene, ethylbenzene, and total xylenes were not exceeded in the groundwater samples from the area. MTBE was not detected in the groundwater samples from the area.

Gasoline range TPH was detected in seven of the fourteen groundwater samples (B45S2W, B45S3W, B45S7W, B45S8W, B45S9W, B45S10W and MW-A22). Diesel range TPH was detected in two of the fourteen samples (MW-A22 and MW-A27). Total TPH concentrations were above the ITL for TPH in the five of the seven eight borings containing TPH detections in groundwater (B45S2, B45S7, B45S8, B45S9, and B45S10).

A total of six step-out borings were completed in the downgradient and side gradient directions from borings with ITL exceedences. The side gradient step-out boring B45S6 and the downgradient step out boring B42S1 were below ITLs for all constituents. Constituent detections above ITLs were in samples collected from borings located near the underground aviation fuel (JP-4 and JP-5) product piping which runs east west between Fuel Pits #1 (located south of Building 42) and Fuel Pit #4 (located south of Building 45).

5.7 Results for the Tank Farm, and Paint/Solvent Storage Area at Building 41

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the tank farm and paint/solvent storage area at Building 41.

5.7.1 Analytical Results for Soil Samples from the Tank Farm, and Paint/Solvent Storage Area at Building 41

Analytical results for soil samples from the tank farm and paint/solvent storage area at Building 41 were utilized to assess the horizontal extent of any impacted soils at this location.

Six soil borings (one more than planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from each of the borings (B41E1, B41N1, B41S1, B41S2, B41S3D, and B41S4) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. A duplicate soil sample was analyzed for VOCs from the Boring B41S1. Soil boring locations are displayed in Figure 5-7. Table 5-11 presents a summary of analytical results for constituents detected in the soil samples from the tank farm and paint/solvent storage area at Building 41.

Soil samples were analyzed for VOCs by Method 8021, polynuclear aromatic hydrocarbons (PAHs) by Method 8270C and for extractable TPH by Method OA-2. VOC constituents were detected in two of the seven soil samples analyzed (B41N1-8 and B41S3D-4). These constituents were BTEX and benzene derivatives (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropyl benzene, p-isopropyltoluene, sec-butylbenzene). Benzene in sample B41N1-8 was the only VOC constituent detected above ITL (186 µg/kg vs. 50 µg/kg).

Benzo(a)pyrene was the only PAH constituent detected. It was detected in the soil sample B41E1-10 at a concentration of 85 μ g/kg, exceeding the ITL of 62 μ g/kg. Diesel range TPH was detected in one of the seven soil samples analyzed (B41S3D-4) at a concentration of 24,000 μ g/kg, well below the TPH ITL of 200,000 μ g/kg.

One step-out boring (B41S4) was completed in the downgradient direction from MW-5. Borings for the Paint Accumulation area west of Building 2 (B2W1 and B2I1) and the industrial sewer area (B2N1) were also utilized as step-out borings. Soil samples from the step-out borings were below ITLs for all constituents.

5.7.2 Analytical Results for Groundwater Samples from the Tank Farm, and Paint/Solvent Storage Area at Building 41

Analytical results for groundwater samples from the tank farm and paint/solvent storage area at Building 41 were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the seven temporary piezometers (including a shallow and deep piezometer at the B41E1 location) installed in the area. Groundwater samples were collected from three existing monitoring wells (MW-5, MW-7, and MW-18), one more than in the SOW. The groundwater samples were submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. Groundwater samples were analyzed for VOCs by Method 8021, PAHs by Method 8270C and for extractable TPH by Method OA-2 or TPH-DRO. Table 5-12 presents a summary of analytical results for constituents detected in the groundwater samples from the tank farm and paint/solvent storage area at Building 41.

VOC constituents associated with fuel; benzene, xylenes, and benzene derivatives (1,2,4-trimethylbenzene, isopropyl benzene, n-propylbenzene, p-isopropyltoluene, sec-butylbenzene) were detected in the sample from B41N1. Benzene, 1,2,4-trimethylbenzene, and n-propylbenzene were detected above their respective ITLs in this sample.

VOC constituents associated with paints or solvents were detected in three of the 10 groundwater samples analyzed (B41E1W, B41S3DW, and MW-5). These constituents included: tetrachloroethene (PCE); trichloroethene (TCE); and several degradation products including cis-1,2-dichloroethene, 1,1-dichloroethene, and vinyl chloride. PCE was detected above ITL in the deep groundwater sample from B41S3D (125 μ g/L vs. 5 μ g/L ITL). Vinyl chloride and 1,1-dichloroethene were detected above ITLs in the groundwater sample from MW-5 (vinyl chloride at 7.4 μ g/L vs. 2 μ g/L ITL and 1,1-dichloroethene at 10 μ g/L vs. 7 μ g/L ITL). VOC detections (TCE and cis-1,2-dichloroethene) in the groundwater sample from B41E1 were below ITLs.

PAH constituent were not detected in the seven groundwater samples analyzed from the area. Diesel range TPH was detected in one of the 10 samples analyzed, MW-5 at a concentration of 180 μ g/L, well below the TPH ITL of 10,000 μ g/L.

One step-out boring (B41S4) was completed in the downgradient direction from MW-5. Borings for the Paint Accumulation area west of Building 2 (B2W1 and B2I1) and the industrial sewer area (B2N1) were also utilized as step-out borings.

5.8 Results for the Paint Accumulation Area West of Building 2

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the paint accumulation area west of Building 2.

5.8.1 Analytical Results for Soil Samples from the Paint Accumulation Area West of Building 2

Analytical results for soil samples from the paint accumulation area west of Building 2 were utilized to assess the horizontal extent of any impacted soils at this location.

Two soil borings (same as planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from each of the borings (B2I1 and B2W1) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring locations are displayed in Figure 5-7. Table 5-13 presents a summary of analytical results for constituents detected in the soil samples from the paint accumulation area west of Building 2.

Soil samples were analyzed for VOCs by Method 8021, PAHs by Method 8270C and for eight RCRA metals by Methods 6010B and 7471. The sample from B2W1 was also analyzed for extractable TPH by Method OA-2.

Eleven VOC constituents were detected in one or both of the two soil samples analyzed (B2I1-8 and B2W1-6). These constituents included benzene, ethylbenzene, xylenes, chloroethane, and other benzene derivatives. None of the VOC detections were above respective ITLs. Diesel range TPH was detected in the soil sample B2W1-6 at $47,000 \,\mu\text{g/kg}$, below the TPH ITL of $200,000 \,\mu\text{g/kg}$.

PAH constituents were not detected in the two soil samples analyzed from this area. Arsenic, barium, chromium and lead were detected at concentrations below their respective ITLs. Cadmium, mercury, selenium, and silver were not detected in the two soil samples from this area.

5.8.2 Analytical Results for Groundwater Samples from the Paint Accumulation Area West of Building 2

Analytical results for groundwater samples from the paint accumulation area west of Building 2 were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the two temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. Groundwater samples were analyzed for VOCs by Method 8021, PAHs by Method 8270C and for eight RCRA metals by Methods 6010 and 7471. Table 5-14 presents a summary of analytical results for constituents detected in the soil samples from the paint accumulation area west of Building 2.

Benzene and chloroethane were detected at concentrations just above their respective ITLs (benzene at 6.3 μ g/L vs. 5 μ g/L ITL and chloroethane at 7.3 μ g/L vs. 4.6 μ g/L ITL) in the sample from B2W1. Trichlorofluoromethane was detected at a concentration (17 μ g/L) well below the ITL (1,300 μ g/L) in the sample from B2W1.

Vinyl chloride was the only VOC constituent detected in the sample from B211. The vinyl chloride detection of 5.6 μ g/L was slightly above the ITL of 2 μ g/L.

Barium and chromium were detected in both groundwater samples analyzed from the area; lead was also detected in the sample from B2I1. These detections were below their respective ITLs.

Step-out borings were not conducted at this area. Boring B2I1 is located downgradient of B2W1, the vinyl chloride exceedence in B2I1 was very close to the ITL and no other VOCs were detected in the groundwater sample from the boring.

5.9 Results for the Industrial Sewer Line Area

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the industrial sewer area.

5.9.1 Analytical Results for Soil Samples from the Industrial Sewer Line Area

Analytical results for soil samples from the industrial sewer area were utilized to assess the horizontal extent of any impacted soils at this location.

Six soil borings (four planned in the SOW) were advanced to assess the extent of any potential releases from the industrial sewer located along the south side of Banshee Road. Soil samples were collected from each of the borings (B44N1, B2N1, B2N2, B2N3, B2N4, and B2N5) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring locations are displayed in Figure 5-8. Table 5-15 presents a summary of analytical results for constituents detected in the soil samples from the industrial sewer area.

Soil samples were analyzed for VOCs by Method 8021 and for eight RCRA metals by Methods 6010B and 7471. The sample from B44N1 was also analyzed for extractable TPH by Method OA-2.

Diesel range TPH was not detected in the soil sample B44N1-8.

VOC constituents associated with fuel: benzene, xylenes, n-propylbenzene, p-isopropyltoluene, and secbutylbenzene were detected in the sample from B41N1, all detection were below ITLs in this sample (B44N1-8).

PCE was detected in soil samples B2N3-8 and B2N4-6 at concentrations just above method detection limits and below ITLs. No other VOC constituents were detected in the soil samples analyzed from the area.

Barium, chromium, mercury, and lead were detected at concentrations below their respective ITLs in the four soil samples analyzed from this area. Arsenic was detected in three of the four samples analyzed. Detected arsenic concentrations were above ITL in one soil sample (B2N2-8 at 39,000 μ g/kg vs. 11,000 μ g/kg ITL). Cadmium, selenium, and silver were not detected in the four soil samples analyzed from this area.

5.9.2 Analytical Results for Groundwater Samples from the Industrial Sewer Line Area Analytical results for groundwater samples from the industrial sewer area were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the six temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. Groundwater samples were analyzed for VOCs by Method 8021 and for eight RCRA metals by Methods 6010 and 7471. The sample from B44N1 was also analyzed for extractable TPH by Method OA-2. Duplicate groundwater samples from B2N3 and B44N1 were submitted for VOC analysis. Table 5-16 presents a summary of analytical results for constituents detected in the groundwater samples from the industrial sewer line area.

Diesel range TPH was not detected in the groundwater sample from B44N1.

PCE, TCE and two degradation products, cis-1,2-dichloroethene and trans-1,2-dichloroethene were the only VOCs detected in the groundwater samples from the six borings/temporary piezometers. PCE was detected above ITL in the groundwater samples from B2N3 (23 and 21 μ g/L vs. 5 μ g/L ITL) and in the sample from B2N4 (13 μ g/L detected). TCE was detected above ITL in the groundwater samples from B2N3 (11 and 10 μ g/L vs. 5 μ g/L ITL). TCE was detected below the ITL in B2N4 at 2.5 μ g/L. Concentrations of cis-1,2-dichloroethene and trans-1,2-dichloroethene detected in B2N3 and B2N4 were below respective ITLs.

Mercury was detected in one of the six groundwater samples (B2N1W) analyzed for RCRA metals from the area. The detected mercury concentration of 0.33 µg/L is below the 2 µg/L ITL for mercury.

Barium, chromium, and lead were detected all six of the groundwater samples analyzed from the area; arsenic was also detected in the samples from B2N2, B2N3, B2N4 and B44N1. Arsenic was detected above the ITL in B2N3 and B44N1. Barium was detected above the ITL in B2N3 and B2N4. Chromium was detected above the ITL in B2N3. Lead was detected above the ITL in B2N1, B2N2, B2N3, B2N4, and B44N1.

Two step-out borings were conducted downgradient (east) of B2N3. The groundwater sample from the step-out boring located farthest downgradient (B2N5) was below ITLs for all VOC and RCRA metals.

5.10 Results for the UST Area Between Buildings 4 and 5

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the UST area between Buildings 4 and 5.

5.10.1 Analytical Results for Soil Samples from the UST Area Between Buildings 4 and 5 Analytical results for soil samples from the UST area between Buildings 4 and 5 were utilized to assess the horizontal and vertical extent of any impacted soils at this location.

Two soil borings (same as planned in the SOW) were advanced to assess the extent of any potential releases from this area. Soil samples were collected from Borings B4E1 and B4E2D and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Boring B4E2D was probed to the top of bedrock with continuous soil sampling. Soil boring locations are displayed in Figure 5-9. Table 5-17 presents a summary of analytical results for constituents detected in the soil samples from UST area between Buildings 4 and 5.

Soil samples were analyzed for BTEX, MTBE, and volatile TPH by Method OA-1 and extractable TPH by TPH-DRO. Total xylenes at 9.4 µg/kg vs. an ITL of 16,000 µg/kg were the only VOC detected. TPH-DRO was detected in both soil samples (B4E1-14 and B4E2D-10) at 47,000 and 55,000 µg/kg, respectively, well below the TPH ITL of 200,000 µg/kg.

5.10.2 Analytical Results for Groundwater Samples from the UST Area Between Buildings 4 and 5

Analytical results for groundwater samples from the UST area between Buildings 4 and 5 Area were utilized to characterize the nature and horizontal and/or vertical extent of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the one shallow and the one deep temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. The boring/temporary piezometer locations are displayed in Figure 5-9. Table 5-18 presents a summary of analytical results for constituents detected in the groundwater samples from UST area between Buildings 4 and 5.

Groundwater samples were analyzed for BTEX, MTBE, and volatile TPH by Method OA-1 and extractable TPH by Method TPH-DRO. TPH-DRO was detected in the shallow groundwater sample from B4E1 at 3,500 μ g/L, well below the ITL of 10,000 μ g/L. No constituents were detected from the deep groundwater sample collected from B4E2D.

5.11 Results for the Shooting Range Bunker Area

Analytical soil data, analytical groundwater data, geological soil boring data, and various field data/measurements were utilized to characterize the nature and extent of any hazardous constituent/waste impacts from the shooting range bunker area.

5.11.1 Analytical Results for Soil Samples from the Shooting Range Bunker Area

Analytical results for soil samples from the shooting range bunker area were utilized to assess the horizontal extent of any impacted soils at this location.

Three soil borings (same as planned in the SOW) were advanced to assess the extent of any potential metals impacts to soil in the unsaturated unit. Soil samples were collected from each of the borings (B13E1, B13E2, and B13E3) and submitted for chemical analysis to evaluate any potential impacts to soil at this location. Soil boring locations are displayed in Figure 5-10. Table 5-19 presents a summary of analytical results for constituents detected in the soil samples from the shooting range bunker area.

Soil samples were analyzed for eight RCRA metals by Methods 6010B and 7471. A duplicate of the soil sample from B13E3 was also submitted for metals analysis.

All eight RCRA metals were detected in on or more of the soil samples analyzed. None of the detections were above the corresponding ITLs.

5.11.2 Analytical Results for Groundwater Samples from the Shooting Range Bunker Area Analytical results for groundwater samples from the shooting range bunker area were utilized to characterize the nature of any potential constituent releases to groundwater beneath this area.

Groundwater samples were collected from the three temporary piezometers installed in the area and submitted for chemical analysis to evaluate any potential impacts to groundwater at this location. Groundwater samples were analyzed for eight RCRA metals by Methods 6010 and 7471. Table 5-20 presents a summary of analytical results for constituents detected in the groundwater samples from the shooting range bunker area.

Silver was detected in one of the three groundwater samples (B13E1W) analyzed from the area. The detected silver concentration of 6.6 μ g/L is below the 100 μ g/L ITL for silver.

Barium was detected in all three of the groundwater samples at concentrations below the ITL. Arsenic and lead were also detected in all three of the groundwater samples analyzed from the area. Arsenic concentration detected in B13E2 (55 μ g/L) and B13E3 (62 μ g/L) were above the ILT of 50 μ g/L. Lead concentration detected in B13E2 (23 μ g/L) and B13E3 (21 μ g/L) were above the ITL of 15 μ g/L. Arsenic and lead concentrations detected in the sample from B13E1 were below corresponding ITLs.

6.0 References

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Table 3-1 Summary of Sampling Analysis Parameters for 2002 Environmental Field Investigation, Boeing Tract 1 South

Building/Area ID	No. of Borings	Approx.No. of Soil Samples	No. of Groundwater Samples (incl temporary piezometers)	Target Analytical Constituents	Mobile Lab SW846 Method	Fixed Lab SW846 Method	Sample Selection Criteria	Projected Sampling Intervals	Investigation Method	Projected Boring Depth*	Comments	Field Notes
SWMU No. 17	3	3	3	VOCs TPH	8021 8015	8260 3550 (DRO)	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	20 ft for soil boring & shallow MW	50 ft horizontal step-outs if VOC impacts are evident	
UST Site #3 (Bldgs 45L, C, D, & E)	3	3 (1 shallow; 2 deep)	3	BTEX TPH		OA-1 3550 (DRO)	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	15 ft for shallow soil borings; 60 ft for deep soil borings	50 ft horizontal step-outs if VOC impacts are evident	
Building 40 (Former Drum Storage)	5	5	5	VOCs TPH	8021 8015	8260 3550 (DRO)	Highest PID &/or · Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	15 ft for shallow soil borings; 60 ft for deep soil borings	25 ft horizontal step-outs if VOC impacts are evident.	
UST Site #2 (SE of Building 48)	4	4 (3 shallow; 1 deep)		BTEX TPH		OA-1 3550 (DRO)	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	15 ft for shallow soil borings; 60 ft for deep soil borings	25 ft horizontal step-outs if VOC impacts are evident.	
UST Site #4 (South of Bldg 45)	5	5 (3 shallow; 2 deep)	7 (5 new pts + 2 existing MW's)	BTEX TPH		OA-1 3550 (DRO)	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	15 ft for shallow soil borings; 60 ft for deep soil borings	50 ft horizontal step-outs if VOC impacts are evident	
Building 41 (Tank Farm and Paint/Solvent Storage)	5	5 (3 shallow; 2 deep)	7 (5 new pts + 2 existing MWs)		8015	8260 3550 (DRO) 8310	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe	15 ft for shallow soil borings; 60 ft for deep soil borings	50 ft horizontal step-outs if VOC impacts are evident	
West of Building 2 (Paint Accumulation Area)	2	2	2	VOCs 8 RCRA Metals PAH	NA	8260 6010B,7470A, 7471A 8310	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe	15 ft for shallow soil borings	25 ft horizontal step-outs if VOC impacts are evident.	
Industrial Sewer Line	4	4	4	VOCs 8 RCRA Metals	8021 NA	8260 6010B,7470A, 7471A	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe .	15 ft for shallow soil borings	25 ft horizontal step-outs if VOC impacts are evident.	
UST Area between Buildings 4 and 5	2	2 (2 deep)	2 (2 new points)			OA-1 3550 (DRO)	Highest PID &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe and HSA	15 ft for shallow soil borings; 60 ft for deep soil borings	25 ft horizontal step-outs if VOC impacts are evident.	
Shooting Range Bunkers	3	3	3	8 RCRA Metals		6010B,7470A, 7471A	Greatest Depth &/or Visual Determination	Variable (see Section 5.2 for specific intervals)	Geoprobe	25 ft for shallow soil borings	25 ft horizontal step-outs if metals impacts are evident.	
Total	36	36	40 (36 new points + 4 existing MWs)									

Table 3-2 Investigation Threshold Levels (ITLs) for Soils 2002 Environmental Field Investigation **Boeing Tract 1 South**

Constituent	BOEING Investigation Threshold Level (ITL) for Soil (1)	Missouri CALM Residential Scenario A (2)	Missouri CALM Industrial Scenario C (3)	Missouri CALM Leaching to Groundwater (4)	EPA Region IX Preliminary Remediation Goals (5)
VOLATILE ORGANIC COMPOUNDS (VO		(2)	(3)		Goals (3)
Acetone	1,600,000	2,700,000	8,700,000		1,600,000
Benzene	1,600,000	6,000	13,000	50	1,600,000
Bromodichloromethane	700	11,000	41,000	700	1,000
n-Butylbenzene	140,000	11,555	;		140,000
sec-Butylbenzene	110,000				110,000
tert-Butylbenzene	130,000				130,000
Dibromochloromethane	800	20,000	77,000	800	1,100
2-Butanone (MEK)	7,300,000	7,400,000	16,000,000		7,300,000
Carbon disulfide Carbon tetrachloride	360,000 130	630,000 200	721,000 500	130	360,000
Chloroethane	3,000		500		3,000
Chloroform	240	800	1.000	600	240
1,1-Dichloroethane	590,000				590,000
1,1-Dichloroethene	54	400	1,000	90	54
1,2-Dichloropropane	40	10,000	25,000	40	350
Isopropyl benzene	160,000	210,000	210,000		160,000
p-lsopropyltoluene	67	8,760,000	8,760,000	67	
cis-1,2-Dichloroethene	500	1,200,000	1,200,000	500	43,000
trans-1,2-Dichloroethene	1,000	2,900,000	3,100,000	1,000 32.000	63,000
Ethylbenzene 2-Hexanone	32,000	400,000	400,000		230,000
4-Methyl 2-pentanone (MIBK)	790,000	1,000,000	2,300,000		790,000
Methyl Tertiary-Butyl Ether (MTBE)	4 67	8,760,000	8,760,000	67	790,000
Methylene chloride	20	51,000	150,000	20	8,900
Napthalene	24,000	120,000	240,000	24,000	56,000
n-Propylbenzene	28,000	28,000	91,000		140,000
Tetrachloroethene	100	40,000	120,000	100	5,700
Toluene	3,700	650,000	650,000	3,700	520,000
1,1,1-Trichloroethane	3,500	1,200,000	1,200,000	3,500	630,000
1,1,2-Trichloroethane	40	5,000	14,000	40	840
1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene	52,000 21,000	100,000 42,000	180,000 76,000		52,000 21,000
* Trichloroethene	100	40,000	89,000	100	2,800
Trichlorofluoromethane	390,000	770,000	1,400,000	100	390,000
Vinyl Chloride	20	300	600	20	150
Xylenes, Total	16,000	418,000	418,000	16,000	210,000
Total Petroleum Hydrocarbons (TPH)	200,000	200,000	1,000,000		
POLYNUCLEAR AROMATIC HYDROCAI	RBONS (PAHs) (μg/k	g)			
Acenaphthene	1,000,000	1,700,000	5,400,000	1,000,000	3,700,000
Acenaphthylene	2,300 (6)				
Anthracene	8,500,000	8,500,000	27,000,000	33,000,000	22,000,000
Benzo(a)anthracene	200	1,000	4,000	200	620
Benzo(b)fluoranthene	600	900	4,000	600	620
Benzo(a)pyrene	62	200	600	24,000	62
Chrysene	1,600,000	36,000	140,000	200	62,000
Fluoranthene Fluorene	1,100,000	1,600,000 1,100,000	5.2E+06 3.6E+06	3,800,000 2,100,000	2,300,000 2,600,000
		1,100,000	3.0L+00	2,100,000	2,000,000
POLYCHLORINATED BIPHENYLS (PCB					
PCBs	220	600	2,500	18,000	220
METALS/CYANIDE (mg/kg)					
Arsenic	11	11	14		22
Barium	1,700	14,000	51,000	1,700	5,400
Cadmium	11	110	380	11	37
Chromium	38	2,100	4,500	38	210
Lead	260	260	660		400
Mercury	0.6	0.6	1	3.2	23
Selenium	4.3	300	970	4.3	390
Silver	26	140	450	26	390

Constituents in bold were added to table based on results of Environmental Field Investigation of Tract 1 South.

- 1 Investigation Threshold Levels (ITLs) for soils were derived from the most conservative of Cleanup Levels for Missouri (September 2001) or USEPA Region IX Preliminary Remediation Goal (PRG) values.
- 2 Cleanup Levels for Missouri, September 2001. Value represents Residential (Scenano "A") exposure pathway.

- 3 Cleanup Levels for Missouri, September 2001. Value represents Industrial (Scenario *C*) exposure pathway.
 4 Cleanup Levels for Missouri, September 2001. Value that is protective of "leaching to groundwater."
 5 USEPA Region IX Preliminary Remediation Goals (PRGs), November 1, 2000. Value represents Residential exposure pathway.
- 6 Alternative value acquired by using residential value for pyrene as a comparable surrogate.

⁻⁻ Applicable value not available, μg/kg = micrograms per kilogram, mg/kg = milligrams per kilogram

Table 3-3 Investigation Threshold Levels (ITLs) for Groundwater 2002 Environmental Field Investigation Boeing Tract 1 South

s) (μg/L) 4,000 5 80 61 (4) 61 (4) 80	 5 80 	4,000 5 80
5 80 61 (4) 61 (4) 61 (4) 80	5 80 	5 80
80 61 (4) 61 (4) 61 (4) 80	80 	
61 (4) 61 (4) 61 (4) 80		
61 (4) 61 (4) 80		
61 (4) 80		
80		
		80
1,900 (4)	80	80
1,000 (4)		
1,000 (1)	5	
80	80	80
4,000	4,000	4,000
7	7	
5		
		
700		700
		
160 (4)		
		••
5	5	
100	100	••
61 (4)		
5	5	
150	150	1,000
200	200	20
		
		· · ·
		-
		10,00
BONS (PAHs) (ug/L	.)	
9,600	9,600	
0.0044	0.0044	8
0.0044	0.0044	
0.2000	0.2000	0.200
0.0044	0.0044	1
300	300	
1,300	1,300	
	4.6 (4) 80 4,000 7 5 5 70 100 700 160 (4) 20 5 100 61 (4) 5 150 200 5 12 (4) 12 (4) 12 (4) 12 (4) 2 (4) 1,300 (4) 2 (2) 3 (2) 8 (5) 1,300 (4) 1,200 9,600 0.0044 0.2000 0.0044	4.6 (4) 80 80 80 4,000 4,000 7 7 7 5 5 5 70 70 70 100 100 700 700 160 (4) 20 20 5 5 5 100 100 61 (4) 2 5 5 150 150 200 200 5 5 5 150 150 150 200 200 5 5 5 150 150 150 200 200 61 (4) 2 2 2 320 320 320 10,000 10,000 SONS (PAHs) (μg/L) 1,200 1,200 9,600 9,600 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044 0,0044

Constituents in bold were added to table based on results of Environmental Field Investigation of Tract 1 South. -- Applicable value not available, µg/L = micrograms per liter

Footnotes

- 1 Investigation Threshold Levels (ITLs) for groundwater were derived from Cleanup Levels for Missouri (CALM). For instances where the CALM values were unavailable, Maximum Contaminent Levels (MCLs) were used. If CALM and MCL values were unavailable, Region IX Preliminary Remediation Goals (PRG) values for tap water were used as referenced below.
- 2 Cleanup Levels for Missouri, September 2001. Value represents groundwater target concentration value.
- 3 Maximum Contaminant Levels, Summer 2000, non-zero MCLG, MCL, or HBL.
- 4 Alternative value acquired from EPA Region IX PRGs, November 1, 2000.

Table 4-1 Summary of Sampling for 2002 Environmental Field Investigation, Boeing Tract 1 South

Building/Area ID	Numb Bori		Number of Soil		Groundwater nples	Target Analytical	Mobile Lab SW846	Fixed Lab SW846	Sample Selection	Boring IDs
	Shallow	Deep	Samples	Monitoring Wells	Temporary Piezometers	Constituents	Method	Method	Criteria	
SWMU No. 17	3		3		3	VOCs TPH	8021 8015	8260 3550 (DRO)	Highest PID &/or Visual Determination	B48N, B48I1, B48I2
UST Site #3 (Bldgs 45L, C, D, & E)	1	2	2		3	BTEX TPH	8020 8015	OA-1 3550 (DRO)	Highest PID &/or Visual Determination	B45CS1D, B45CS2, B45CS3D
Building 40 (Former Drum Storage)	5	:	5		5	VOCs TPH	8021 8015	8260 3550 (DRO)	Highest PID &/or Visual Determination	B40E1, B40E2, B40S1, B40S2, B40W1
UST Site #2 (SE of Building 48)	9	1	9		4	BTEX TPH	8020 8015	OA-1 3550 (DRO)	Highest PID &/or Visual Determination	B48S1, B48S2, B48S3, B48S4D, B48S5, B48S6, B48S7, B48S8, B48S9, B48S10
UST Site #4 (South of Bldg 45)	9	2	9	2	5	BTEX TPH	8020 8015	OA-1 3550 (DRO)	Highest PID &/or Visual Determination	B45S1D, B45S2, B45S3, B45S4, B45S5D, B45S6, B45S7, B45S8, B45S9, B45S10, B42S1
Building 41 (Tank Farm and Paint/Solvent Storage)	4	2	6	2	5	VOCs TPH PAH	8020 8015 NA	8260 3550 (DRO) 8310	Highest PID &/or Visual Determination	B41E1D, B41N1, B41S1, B41S2, B41S3D, B41S4
West of Building 2 (Paint Accumulation Area)	2		2		2	VOCs 8 RCRA Metals PAH	8021 NA NA	8260 6010B,7470A, 7471A 8310	Highest PID &/or Visual Determination	B2I1, B2W1
Industrial Sewer Line	6		6		4	VOCs 8 RCRA Metals	8021 NA	8260 6010B,7470A, 7471A	Highest PID &/or Visual Determination	B2N1, B2N2, B2N3, B2N4, B2N5, B44N1
UST Area between Buildings 4 and 5	1	1	2		2	BTEX TPH	8020 8015	OA-1 3550 (DRO)	Highest PID &/or Visual Determination	B4E1, B4E2D
Shooting Range Bunkers	3		3		3	8 RCRA Metals	NA	6010B,7470A, 7471A	Greatest Depth &/or Visual Determination	B13E1, B13E2, B13E3
Total	43	8	47	4	36					

Table 4-2 Soil Boring Data, 2002 Environmental Field Investigation, Boeing Tract 1 South
Page 1 of 2

Boring ID	Groundwater Samp ID	Northing	Easting	Boring Depth	Ground Elevation	Date Installed		
SWMU No. 17	7							
B48N1	B48N1W	9463.31	7333.29	16	539.92	11/11/02		
B48I1	B48I1W	9415.98	7117.26	16	NM	11/11/02		
B48I2	B48I2W	9415.20	7177.99	16	NM	11/11/02		
UST Site #3								
B45CS1D	B45CS1DW	8604.20	7524.26	79	537.30	11/14/02		
B45CS2	B45CS2W	8599.34	7684.43	16	536.23	11/14/02		
B45CS3D	B45CS3DW	8683.48	7691.47	64	536.91	11/20/02		
Former Drum	Storage Adjacent	to Building 4	10					
B40E1	B40E1W	8532.63	7644.11	12	536.08	11/14/02		
B40E2	B40E2W	8475.55	7645.45	16	535.42	11/14/02		
B40S1	B40S1W	8447.00	7623.45	16	535.56	11/14/02		
B40S2	B40S2W	8447.13	7517.87	16	536.45	11/14/02		
B40W1 '	B40W1W	8481.19	7468.20	16	536.60	11/14/02		
UST Site #2								
B48S1	B48S1W	9286.80	7605.86	16	537.41	11/14/02		
B48S2	B48S2W	9304.85	7558.14	16	538.37	11/15/02		
B48S3	B48S3W	9257.27	7536.62	16	539.13	11/15/02		
B48S4D	B48S4DW	9256.95	7588.07	76	537.72	11/15/02		
B48S5	B48S5W	9238.98	7554.24	16	538.42	11/19/02		
B48S6	B48S6W	9286.67	7638.40	16	537.02	11/19/02		
B48S7	B48S7W	9212.97	7554.49	16	538.38	11/20/02		
B48S8	B48S8W	9215.18	7587.50	16	537.60	11/20/02		
B48S9	B48S9W	9112.88	7555.97	16	538.49	11/21/02		
B48S10	B48S10W	9224.28	7638.13	16	537.14	11/21/02		
UST Site #4								
B45S1D	B45S1DW	8878.08	7266.58	73	540.58	11/18/02		
B45S2	B45S2W	8888.75	7457.90	12	539.03	11/18/02		
B45S3	B45S3W	8952.72	7473.51	16	539.32	11/18/02		
B45S4	B45S4W	8990.44	7457.47	16	539.84	11/18/02		
B45S5D	B45S5DW	8928.28	7473.10	79.4	539.06	11/18/02		
B45S6	B45S6W	8852.73	7491.73	12	538.26	11/18/02		
B45S7	B45S7W	8927.81	7522.63	12	538.67	11/18/02		
B45S8	B45S8W	8878.18	7586.68	12	537.47	11/19/02		
B45S9	B45S9W	8945.00	7591.46	12	537.58	11/19/02		
B45S10	B45S10W	8943.16	7641.64	12	537.35	11/19/02		
B42S1	B42S1W	8940.79	7922.15	16	536.82	11/19/02		

Table 4-2 Soil Boring Data, 2002 Environmental Field Investigation, Boeing Tract 1 South
Page 2 of 2

Boring ID	Groundwater Samp ID	Northing	Easting	Boring Depth	Ground Elevation	Date Installed				
Tank Farm ar	nd Paint/Solvent S	torage Area a	t Building 41	1						
B41E1D	B41E1DW	9570.05	8279.01	72	535.43	11/12/02				
B41N1	B41N1W	9603.90	8167.53	16	538.36	11/8/02				
B41S1	B41S1W	9480.07	8107.49	16	535.93	11/7/02				
B41S2	B41S2W	9476.87	8272.19	16	534.67	11/7/02				
B41S3D	B41S3DW	9479.55	8181.93	70	534.03	11/7/02				
B41S4	B41S4W	9456.70	8330.57	16	535.30	11/13/02				
Paint Accumu	Paint Accumulation Area West of Building 2									
B2I1	B2I1W	9494.11	8369.30	16	535.53	11/8/02				
B2W1	B2W1W	9517.19	8353.51	16	535.45	11/8/02				
Industrial Sev	Industrial Sewer Line									
B2N1	B2N1W	9626.56	8392.74	16	536.59	11/11/02				
B2N2	B2N2W	9623.87	8872.68	16	532.27	11/12/02				
B2N3	B2N3W	9618.17	9371.93	16	532.13	11/12/02				
B2N4	B2N4W	9617.23	9423.11	16	532.10	11/13/02				
B2N5	B2N5W	9617.28	9500.01	16	531.98	11/13/02				
B44N1	B44N1W	9635.32	7875.98	16	546.01	11/8/02				
UST Area Bet	ween Buildings 4	and 5								
B4E1	B4E1W	9520.41	9704.83	20	531.75	11/21/02				
B4E2D	B4E2DW	9437.03	9695.72	79	526.40	11/22/02				
Shooting Rang	ge Bunkers									
B13E1	B13E1W	9429.90	10641.77	20	NM	11/21/02				
B13E2	B13E2W	9365.88	10640.25	16	NM	11/21/02				
B13E3	B13E3W	9309.03	10639.60	16	NM	11/21/02				

NM - Not measured

Table 5-1

Detected Concentrations in Soil, 2002 Environmental Field Investigation

Boeing Tract 1 South, SWMU # 17

	ပ္ပ	B48I1-7 B48I2-6 B48N			INVESTIGATION
CONSTITUENT	7 ft bg		6 ft bgs	9 ft bgs	THRESHOLD LEVEL (ITL)
] 5	5 11/11/02 1		11/11/02	(1)
VOCs Method 8021					
		ND	ND	ND	
TPH Method OA-2					
		ND	ND	ND	

ND - Constituents were not detected above the quantitation limits.

ft bgs - feet below ground surface

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-2

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation

Boeing Tract 1 South, SWMU # 17

CONSTITUENT	SLIN	B48I1W B48		B48N1W	INVESTIGATION THRESHOLD LEVEL (ITL)
	ō	11/11/02	11/11/02	11/11/02	(1)
VOCs Method 8021					
		ND	ND	ND	
TPH Method OA-2					
		ND	ND	ND	

Notes:

ND - Constituents were not detected above the quantitation limits.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-3
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tact 1 South, UST Site #3

	UNITS	B45CS1D	B45CS2-6		INVESTIGATION			
CONSTITUENT	Ž	- ft bgs	6 ft bgs	6 ft bgs	THRESHOLD			
	ח	11/15/02	11/14/02	11/20/02	LEVEL (ITL) (1)			
TPH Method OA-1								
		NS	ND	ND				
TPH Method OA-2								
		NS	ND	NA				
TPH Method DRO	TPH Method DRO							
		NS	NA	ND				

ND - This compound was not detected above the quantitation limit.

NA - Constituents were not analyzed

NS - Not sampled

ft bgs - feet below ground surface

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-4
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tact 1 South, UST Site #3

CONSTITUENT	UNITS	B45CS1DW	B45CS2W	B45CS3DW	INVESTIGATION THRESHOLD
	5	11/15/02	11/14/02	11/20/02	LEVEL (ITL) (1)
TPH Method OA-1					
		ND	ND	ND	
TPH Method OA-2					
		ND	ND	NA	
TPH Method DRO					
		NA	NA	ND	

Notes:

ND - This compound was not detected above the quantitation limit.

NA - This constituent was not analyzed.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-5
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Former Drum Storage Area Adjacent to Building 40

	ıσ	B40E1-6	B40E2-6	B40S1-6	B40S2-6	B40W1-6	INVESTIGATION
CONSTITUENT	UNITS	6 ft bgs THRESHOLD 11/14/02 LEVEL (ITL) (1)					
] =	11/14/02	11/14/02	11/14/02	11/14/02	11/14/02	LEVEL (ITL) (1)
VOCs Method 8021							
		ND	ND	ND	ND	ND	
TPH Method OA-2							
		ND	ND	ND	ND	ND	

ug/kg - micrograms per kilogram

ND - Constituents were not detected above the quantitation limits.

ft bgs - feet below ground surface

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-6
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Former Drum Storage Area Adjacent to Building 40

CONSTITUENT	UNITS	B40E1W	B40E2W	B40S1W	B40S2W	B40W1W	INVESTIGATION THRESHOLD
	ā	11/14/02	11/14/02	11/14/02	11/14/02	11/14/02	LEVEL (ITL) (1)
VOCs Method 8021							,
Trichloroethene	ug/l	1.1	<1	<1	<1	<1	5
TPH Method OA-2							
		ND	ND	ND	ND	ND	

Notes:

ug/l - micrograms per liter

- ND Constituents were not detected above the quantitation limits.
- (1) Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-7
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Site # 2

	တ	B48S1-6	B48S2-5	B48S3-10	B48S4D	B48S5-6	B48S6-6	B48S7-7	B48S8-7	B48S9-8	B48S10-7	INVESTIGATION
CONSTITUENT	툳	6 ft bgs	5 ft bgs	10 ft bgs	- ft bgs	6 ft bgs	6 ft bgs	7 ft bgs	7 ft bgs	8 ft bgs	7 ft bgs	THRESHOLD
	j j	11/14/02	11/15/02	11/15/02	11/15/02	11/19/02	11/19/02	11/20/02	11/20/02	11/21/02	11/21/02	LEVEL (ITL) (1)
VOC/TPH Method OA-1						<u> </u>						
Benzene	ug/kg	307	<50	98	NS	57	<50	<50	125	<2.5	<2.5	50
Ethylbenzene	ug/kg	227	<50	346	NS	<50	<50	<50	408	<2.5	<2.5	32,000
Toluene	ug/kg	3,000	<50	52	NS	354	<50	76	1,090	<25	<25	3,700
Xylenes, Total	ug/kg	829	<50	254	NS	670	<50	273	461	<7.5	<7.5	16,000
Gasoline (C6-C14)	ug/kg	250,000	<5,000	83,000	NS	66,000	<5,000	38,000	133,000	NA	NA	200,000 (2)
TPH Method OA-2		,										
Motor Oil (C16-C33)	ug/kg	47,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NA	NA	200,000 (2)
TPH Method DRO												
TPH (GC/FID) High Fraction	ug/kg	NA	NA	NA	NS	NA	NA	NA	NA	38,000	38,000	200,000 (2)

Motoe.

ug/kg - micrograms per kilogram

NA - Constituents were not analyzed

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

NS - Not sampled

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

Table 5-8

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Site # 2

CONSTITUENT	UNITS	B48S1W	B48S2W	B48S3W	B48S4W	B48S5W	B48S6W	B48S7W	B48S8W	B48S9W	B48S10W	INVESTIGATION THRESHOLD
	5	11/14/02	11/15/02	11/14/02	11/15/02	11/19/02	11/19/02	11/20/02	11/20/02	11/21/02	11/21/02	LEVEL (ITL) (1)
VOC/TPH Method OA-1									* *			
Benzene	ug/l	569	921	14.6	NS	24.8	<5	25.7 B	22.2 B	0.61	<0.5	5
Ethylbenzene	ug/l	<5	24	<5	NS	5.3	<5	<5	<5	<0.5	<0.5	700
Methyl Tert-Butyl Ether	ug/l	<5	9.9	<5	NS	<5	<5	<5	<5	NA	NA	20
Toluene	ug/l	<5	<5	16.1	NS	36	<5	59.6	<5	<5	<5	150
Xylenes, Total	ug/l	<5	<5	<5	NS	17.1	<5	23.6	<5	<1.5	<1.5	320
Gasoline (C6-C14)	ug/l	<1,000	1,160	1,746	NS	301,200	<1,000	207,200	<1,000	ND	ND	10,000 (2)
TPH Method OA-2												
		ND	ND	ND	NS	ND	ND	ND	ND	NA	NA	
TPH Method DRO				-								
TPH (GC/FID) High Fraction	ug/l	NA	NA	NA	NS	NA	NA	NA	NA	1000	180	10,000 (2)

Notes

ug/l - micrograms per liter

ND - Constituents were not detected above the quantitation limits.

NA - Constituents were not analyzed

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

NS - Not sampled

B - Result is qualified, constituent detected in the method blank.

-- - ITL has not been determined for this constituent.

Table 5-9
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Site #4

CONSTITUENT	TS.	B42S1-6	B45S1D	B45S2-7	B45S2-7 DUP	B45S3-7	B45S4-7	B45S5D	B45S6-6	B45S7-7	B45S8-6	B45S9-6	B45S10-6	INVESTIGATION THRESHOLD LEVEL
CONSTITUENT	l ž	6 ft bgs	- ft bgs	7 ft bgs	7 ft bgs	7 ft bgs	7 ft bgs	- ft bgs	6 ft bgs	7 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	(ITL) (1)
		11/20/02	11/18/02	11/19/02	11/18/02	11/18/02	11/18/02	11/19/02	11/18/02	11/18/02	11/19/02	11/18/02	11/20/02	(11 =) (1)
TPH Method OA-1							_							
Benzene	ug/kg	<2.5	NS	601	549	242	<50	NS	<50	<50	<50	<50	62	50
Toluene	ug/kg	<25	NS	3,200	2,930	1,550	<50	NS	<50	67	<50	<50	952	3,700
Xylenes, Total	ug/kg	<7.5	NS	360	263	328	<50	NS	<50	113	<50	<50	513	16,000
Gasoline (C6-C14)	ug/kg	NA	NS	186,000	163,000	206,000	12,000	NS	<5,000	68,000	21,000	<5,000	103,000	200,000 (2)
TPH (GC/FID) Low Fraction	ug/kg	<500	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
TPH Method OA-2							•							
		NA	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	
TPH Method DRO														
		ND	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	NA	

ug/kg - micrograms per kilogram

NS - Not sampled

ft bgs - feet below ground surface

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

ND - Constituents were not detected above the quantitation limits.

NA - Constituent not analyzed.

Table 5-10

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation

Boeing Tract 1 South, UST Site #4

CONSTITUENT	SLIN	B42S1W	B45S1DW	B45S2W	B45S3W	B45S4W	B45S4W DUP	B45S5DW	B45S6W	B45S7W	B45S8W	B45S9W	B45S10W	MW-A22	MW-A27	INVESTIGATION THRESHOLD
		11/20/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/19/02	11/18/02	11/19/02	11/19/02	11/19/02	11/19/02	11/01/02	11/01/02	LEVEL (ITL) (1)
VOC/TPH Method OA-1																
Benzene	ug/l	<0.5	<5	29.4	23.5	<5	<5	<5	<5	6.7	<5	<5	<5	2	<0.5	5
Ethylbenzene	ug/l	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	2.8	<0.5	700
Toluene	ug/l	<5	<5	54.8	18.6	<5	<5	<5	<5	10.1	<5	<5	11.6	<5	<5	150
Xylenes, Total	ug/l	<1.5	<5	<5	<5	<5	<5	<5	<5	8.4	<5	<5	<5	11	<1.5	320
Gasoline (C6-C14)	ug/l	NA	<1,000	15,310	2,760	<1,000	<1,000	<1,000	<1,000	41,410	268,300	10,820	17,440	NA	NA	10,000 (2)
TPH (GC/FID) Low Fraction	ug/l	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,700	<100	10,000 (2)
TPH Method OA-2																
TPH Misc. (C10-C40	ug/l	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	840	1,300	10,000 (2)
TPH Method DRO																
	<u>,</u>	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

ug/l - micrograms per liter

ND - Constituents were not detected above the quantitation limits.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

NA - Constituents were not analyzed

Table 5-11

Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Tank Farm and Paint/Solvent Storage Area By Building 41

CONSTITUENT	UNITS	B41E1D	B41E1-10	B41N1-8	B41S1-6	B41S1-6 DUP	B41S2-4	B41S3D-4	B41S4-6	INVESTIGATION THRESHOLD LEVEL
CONSTITUENT	=	- ft bgs	10 ft bgs	8 ft bgs	6 ft bgs	6 ft bgs	4 ft bgs	4 ft bgs	6 ft bgs	(ITL) (1)
		11/12/02	11/12/02	11/08/02	11/07/02	11/07/02	11/07/02	11/07/02	11/13/02	(112)(1)
VOCs Method 8021										
1,2,4-Trimethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	51	<1	100,000
1,3,5-Trimethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	192	<1	21,000
Benzene	ug/kg	NS	<1	186	<5	<5	<5	18	<1	50
Ethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	10	<1	32,000
Isopropyl Benzene	ug/kg	NS	<1	11	<5	<5	<5	29	<1	
M,P-Xylene	ug/kg	NS	<1	21	<5	<5	<5	27	<1	
P-Isopropyitoluene	ug/kg	NS	<1	<5	<5	<5	<5	116	<1	
Sec-Butylbenzene	ug/kg	NS	<1	75	<5	<5	<5	<5	<1	110,000
Toluene	ug/kg	NS	<1	<5	<5	<5	<5	26	<1	3,700
PAHs Method 8270C										
Benzo(A)Pyrene	ug/kg	NS	85	<33	<33	NA	<33	<33	NA	62
TPH Method OA-2										
Diesel #2	ug/kg	NS	<5000	<5000	<5000	<5000	<5000	24,000	<5000	200,000 (2)

Motes.

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

 Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwopd, Missouri Facility, September 27, 2002, Harding ESE, Inc.

2) - Total TPF

Shaded values indicate constituent concentrations which exceed the ITLs.

NA - Constituents were not analyzed

NS - Not sampled

-- - ITL has not been determined for this constituent.

Table 5-12

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Tank Farm and Paint/Solvent Storage Area By Building 41

		D4454DW	D4454W	BANKIN	D4404W	D4400W	D 44 00 D W	D4404W	*****		101/40	INVESTIGATION
CONSTITUENT	UNITS	B41E1DW	B41E1W	B41N1W	B41S1W	B4152W	B41S3DW	B4154W	MW-5	MW-7	MW-18	THRESHOLD LEVEL
] 5	11/13/02	11/12/02	11/08/02	11/07/02	11/07/02	11/11/02	11/13/02	11/01/02	11/01/02	11/14/02	(ITL) (1)
VOCs Method 8021					· · · · · · · · · · · · · · · · · · ·							
1,1-Dichloroethane	ug/l	<1	<1	<5	<5	<5	<5	<1	98 E	<1	<1	4,000
1,1-Dichloroethene	ug/i	<1	<1	<5	<5	<5	<5	<1	10	<1	<1	7
1,2,4-Trimethylbenzene	ug/l	<1	<1	13	<5	<5	<5	<1	<1	<1	<1	12
Benzene	ug/l	<1	<1	135	<5	<5	<5	<1	<1	<1	<1	5
Cis-1,2-Dichloroethene	ug/l	<1	1.2	<5	<5	<5	16	<1	6.4	<1	<1	70
Isopropyl Benzene	ug/l	<1	<1	24	<5	<5	<5	<1	<1	<1	<1	
M,P-Xylene	ug/l	<1	<1	31	<5	<5	<5	<1	NA	NA	<1	
N-Propylbenzene	ug/l	<1	<1	117	<5	<5	<5	<1	<1	<1	<1	61
P-Isopropyltoluene	ug/l	<1	<1	68	<5	<5	<5	<1	<1	<1	<1	
Sec-Butylbenzene	ug/l	<1	<1	41	<5	<5	<5	<1	<1	<1	<1	61
Tetrachloroethene	ug/l	<1	<1	<5	<5	<5	125	<1	4.8	<1	<1	5
Trichloroethene	ug/l	<1	1.2	<5	<5	<5	<5	<1	2.4	<1	<1	5
Vinyl Chloride	ug/l	<1	<1	<5	<5	<5	<5	<1	7.4	<1	<1	2
PAHs Method 8270C												
	_	ND	NA	ND	ND	ND	ND	NA	ND	ND	NA	
TPH Method OA-2												
		ND	ND	ND	_ND	ND	ND	ND	NA	NA	ND	
TPH Method DRO												1
TPH (GC/FID) High Fraction	ug/i	NA	NA	NA	NA	NA	NA	NA	180	<100	NA	10,000 (2)

Notes:

ug/l - micrograms per liter

- -- ITL has not been determined for this constituent.
- Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
- (2) Total TPH

- ND Constituents were not detected above the quantitation limits.
- NA Constituents were not analyzed
- E Result is qualified, exceeded method calibration curve limit.

Table 5-13

Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Paint Accumulation Area West of Building 2

	Ø	B2I1-8	B2W1-6	INVESTIGATION
CONSTITUENT	UNITS	8 ft bgs	6 ft bgs	THRESHOLD LEVEL
	ב	11/8/02	11/8/02	(ITL) (1)
VOCs Method 8021				
1,3,5-Trimethylbenzene	ug/kg	66	36	21,000
Benzene	ug/kg	<5	21	50
Chloroethane	ug/kg	<5	6.7	3,000
Ethylbenzene	ug/kg	29	<5	32,000
Isopropyl Benzene	ug/kg	292	31	
N-Butylbenzene	ug/kg	80	14	140,000
N-Propylbenzene	ug/kg	<5	30	28,000
P-lsopropyltoluene	ug/kg	268	36	
Sec-Butylbenzene	ug/kg	<5	127	110,000
Tert-Butylbenzene	ug/kg	73	35	130,000
Xylene, Total	ug/kg	43	53	16,000
TPH Method OA-2				
Diesel #2	ug/kg	NA	47,000	200,000 (2)
PAHs Method 8270C				
		ND	ND	
RCRA Metals Method 6010B/7471				
Arsenic	ug/kg	8,900	1,400	11,000
Barium	ug/kg	92,000	120,000	1,700,000
Chromium	ug/kg	18,000	12,000	38,000
Lead	ug/kg	10,000	6,800	260,000

ug/kg - micrograms per kilogram

ND - Constituents were not detected above the quantitation limits.

NA - Constituents were not analyzed

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-14

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Paint Accumulation Area West of Building 2

CONSTITUENT	UNITS	B2I1W	B2W1W	INVESTIGATION THRESHOLD LEVEL
	5	11/8/02	11/8/02	(ITL) (1)
VOCs Method 8021				
Benzene	ug/l	<5	6.3	5
Chloroethane	ug/l	<5	7.3	4.6
Trichlorofluoromethane	ug/l	<5	17	1,300
Vinyl Chloride	ug/l	5.6	<5	2
PAHs Method 8270C				
		ND	ND	
RCRA Metals Method 6010B/7471				
Barium	ug/l	500	500	2000
Chromium	ug/l	32 J	10 J	100
Lead	ug/l	13	<5	15

Notes:

ug/l - micrograms per liter

ND - Constituents were not detected above the quantitation limits.

-- - ITL has not been determined for this constituent.

J - Result is qualified as an estimated value.

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-15

Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Along Industrial Sewer Line

	ý	B2N1-8	B2N2-8	B2N3-8	B2N4-6	B2N5-7	B44N1-9	INVESTIGATION
CONSTITUENT	UNITS	8 ft bgs	8 ft bgs	8 ft bgs	6 ft bgs	7 ft bgs	9 ft bgs	THRESHOLD LEVEL
	5	11/11/02	11/12/02	11/12/02	11/13/02	11/13/02	11/8/02	(ITL) (1)
VOCs Method 8021								
Benzene	ug/kg	<5	<1	<1	<1	<1	41	50
M,P-Xylene	ug/kg	<5	<1	<1	<1	<1	11	
N-Propylbenzene	ug/kg	<5	<1	<1	<1	<1	13	
P-Isopropyltoluene	ug/kg	<5	<1	<1	<1	<1	7.1	
Sec-Butylbenzene	ug/kg	<5	<1	<1	<1	<1	7.2	••
Tetrachloroethene	ug/kg	<5	<1	1.9	1.4	<1	<5	100
TPH Method OA-2								
		NA	NA	NA	NA	NA	ND	
RCRA Metals Method 6010B/7471								
Arsenic	ug/kg	<500	39,000	3,400	NA	NA	2,000	11,000
Barium	ug/kg	63,000	74,000	83,000	NA	NA	110,000	1,700,000
Chromium	ug/kg	6,900	7,900	13,000	NA	NA	13,000	38,000
Lead	ug/kg	4,800 J	5,900	8,100	NA	NA	10,000	260,000
Mercury	ug/kg	<20	<20	30 J	NA	NA	94 J	600

ug/kg - micrograms per kilogram

ND - Constituents were not detected above the quantitation limits.

NA - Constituents were not analyzed

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Shaded values indicate constituent concentrations which exceed the ITLs.

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

J - Result is qualified as an estimated value.

Table 5-16

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation

* Boeing Tract 1 South, Along Industrial Sewer Line

CONSTITUENT	UNITS	B2N1W	B2N2W	B2N3W	B2N3W DUP	B2N4W	B2N5W	B44N1W	B44N1W DUP	INVESTIGATION THRESHOLD
	ے ا	11/11/02	11/12/02	11/12/02	11/12/02	11/13/02	11/13/02	11/8/02	11/8/02	LEVEL (ITL) (1)
VOCs Method 8021										
Cis-1,2-Dichloroethene	ug/l	<5	<1 🤇	45	39	19	<1	<5	<5	70
Tetrachloroethene	ug/l	<5	<1	23	21	13	<1	<5	<5	5
Trans-1,2-Dichloroethene	ug/l	<5	<1	12	12	1.7	<1	<5	<5	100
Trichloroethene	ug/l	<5	<1	11	10	2.5	<1	<5	<5	5
TPH Method OA-2				-						
		NA	NA	NA	NA	NA	NA	ND	ND	
RCRA Metals Method 6010B/7471										
Arsenic	ug/l	<10	34	98	NA	26	<10	100	NA	50
Barium	ug/l	1,300	600	10,000	NA	8,500	530	960	NA	2,000
Chromium	ug/l	40	42	320	NA	59	11	64 J	NA	100
Lead	ug/l	79 J	39	110	NA	25	5.9	110	NA	15
Mercury	ug/l	0.33	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	2

Notes:

ug/I - micrograms per liter

ND - Constituents were not detected above the quantitation limits.

 Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Shaded values indicate constituent concentrations which exceed the ITLs.

NA - Constituents were not analyzed

J - Result is qualified as an estimated value.

Table 5-17
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Area Between Buildings 4 and 5

CONSTITUENT	UNITS	B4E1-14 14 ft bgs 11/21/02	10 ft bgs 11/22/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
TPH Method OA-1				
Xylenes, Total	ug/kg	9.4	<7.5	16,000
TPH Method DRO				
TPH (GC/FID) High Fraction	ug/kg	47,000	55,000	200,000 (2)

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

- -- ITL has not been determined for this constituent.
- Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
- (2) Total TPH

Table 5-18

Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Area Between Buildings 4 and 5

CONSTITUENT	UNITS	B4E1W	B4E2DW	INVESTIGATION THRESHOLD LEVEL
	-	11/21/02	11/22/02	(ITL) (1)
TPH Method OA-1				
		ND	ND	
TPH Method DRO				
TPH (GC/FID) High Fraction	ug/l	3,500	<100	10,000 (2)

Notes:

- ug/l micrograms per liter
- ND Constituents were not detected above the quantitation limits.
- -- ITL has not been determined for this constituent.
- Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
- (2) Total TPH

Table 5-19 Detected Concentrations in Soil, 2002 Environmental Field Investigation Boeing Tract 1 South, Shooting Range Bunkers

CONSTITUENT	UNITS	B13E1-6	B13E2-6	B13E3-6	B13E3-6 DUP	INVESTIGATION THRESHOLD			
CONSTITUENT	Ž	6 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	LEVEL (ITL) (1)			
	-	11/21/02	11/21/02	11/21/02	11/21/02				
RCRA Metals Method 6010B/	RCRA Metals Method 6010B/7471								
Arsenic	ug/kg	2,400	<500	2,900	4,000	11,000			
Barium	ug/kg	120,000	92,000	130,000 B	130,000 B	1,700,000			
Cadmium	ug/kg	480	<250	<250	350	11,000			
Chromium	ug/kg	10,000	9,300	7,900 B	12,000 J	38,000			
Lead	ug/kg	9,800	5,000	14,000	8,900	260,000			
Mercury	ug/kg	22	24	22	34	600			
Selenium	ug/kg	<500	<500	2,000	3,200	4,300			
Silver	ug/kg	260	<250	<250	<250	26,000			

Notes:

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

- B Result qualified due to constituent was detected in the method blank.
- J Result is qualified as an estimated value.
- Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-20
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Shooting Range Bunkers

CONSTITUENT	UNITS	B13E1W	B13E2W	B13E3W	INVESTIGATION THRESHOLD	
	n	11/21/02	11/21/02	11/21/02	LEVEL (ITL) (1)	
RCRA Metals Method 6010B/						
Arsenic	ug/l	17	55	62	50	
Barium	ug/l	370	520	520	2,000	
Lead	ug/l	9.2	23	21	15	
Silver	ug/l	6.6	<5	<5	100	

Notes:

ug/l - micrograms per liter

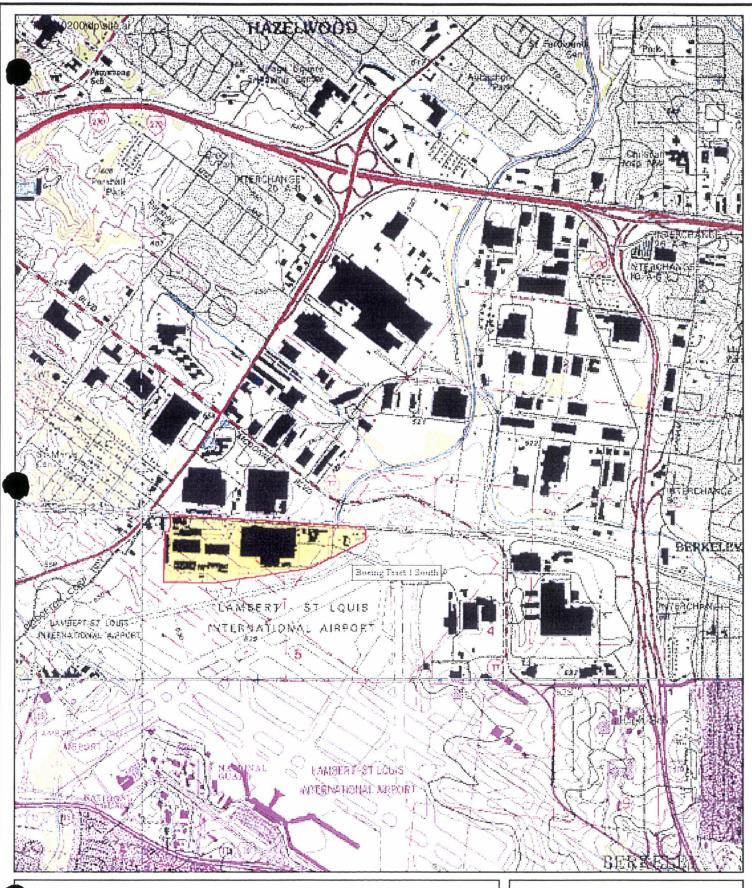
(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Lobbiscou raunium Whitecorn-Golden Eagle Wilkie. winneberger 。 Brock Landing Black Walnut o McCann Landing Blase Wood River Peruque-Marais Éroche -Seebarger Fort Bellefontaine Boeing Hazelwood O'Fallon Shove town South Roxana St. Peters **Facility** Florissant Spanish Lake St. Chanes Bellefontaine Dardenne Prairie Neighbors Harvester Howell Normandy 40 Maryland Heights Jacobs Granite City 6170 Toonerville Ben'bush! 16b Overland Hanley Hills 246a Madison Hambur,g. Chesterfield Creve Coeur University City venice Stevens Clayton -Frontenac St. Louis Clarkson Valley Altheim Maplewood 34b - Rosemont Ballwin Ellisville Clifton Heights Kirkwood Southhampton Cahokia Pond (141)Wildwood (100)Crestwood // Valley Park _oYeatman -272199 Lemay Hollow 274 Concord Camp Wyman Dupo Fenton Mehlville Eureka Allenton. 196ab 📗 🚳 Murphy Jefferson Barracks Parkdale o Oakville Echo Lake Ranch (PP) High Ridge Cliff Cave Columbia _oRock <u>G</u>reek Byrnes-Mill Rodemich-Flamm City Maxville' Kise Crossina House Springs "Warnock Bohleysville" Scotsdale Wickes

Figure 1-1
Faciltiy Location Map
Boeing Tract 1 South

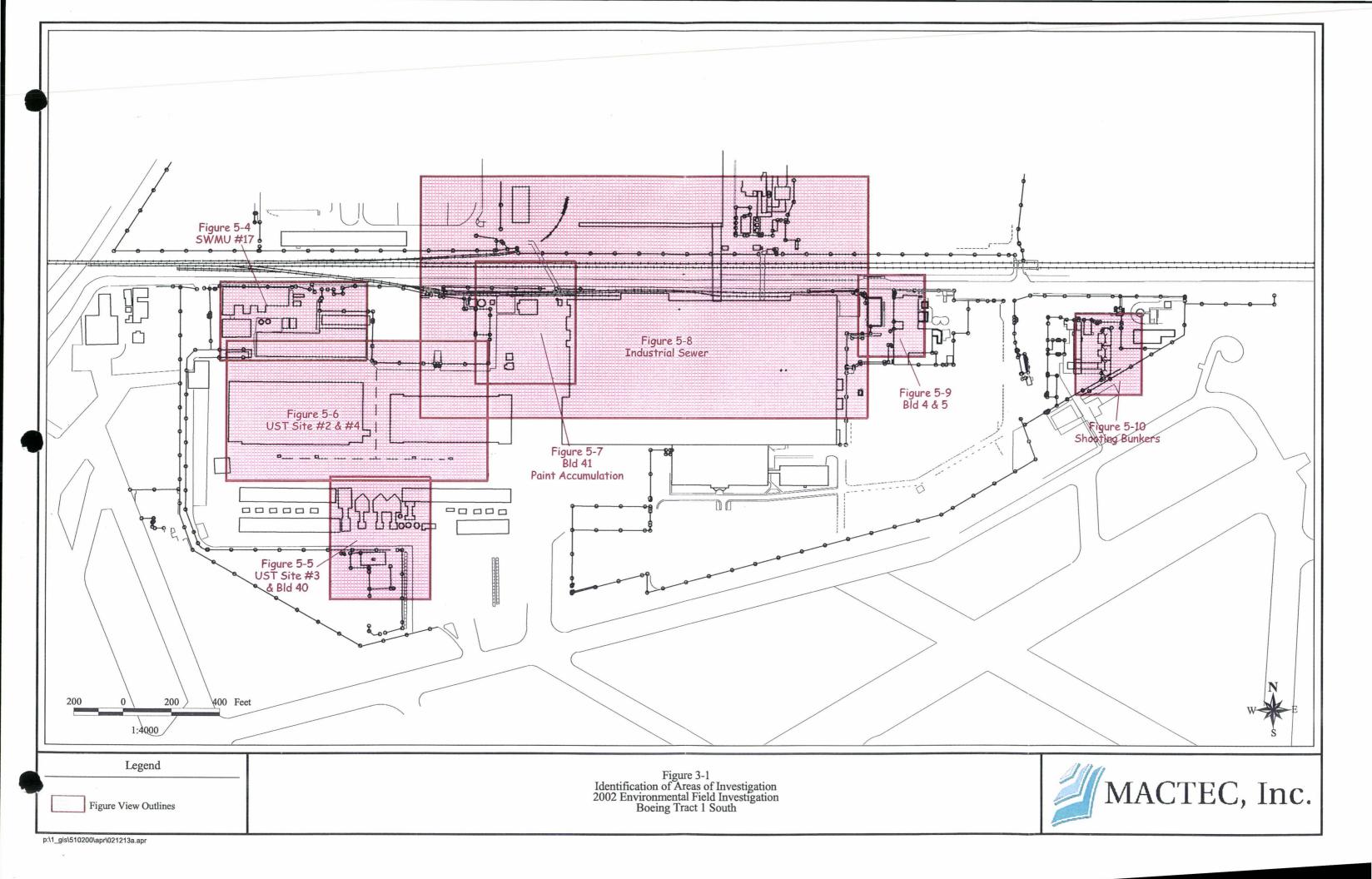
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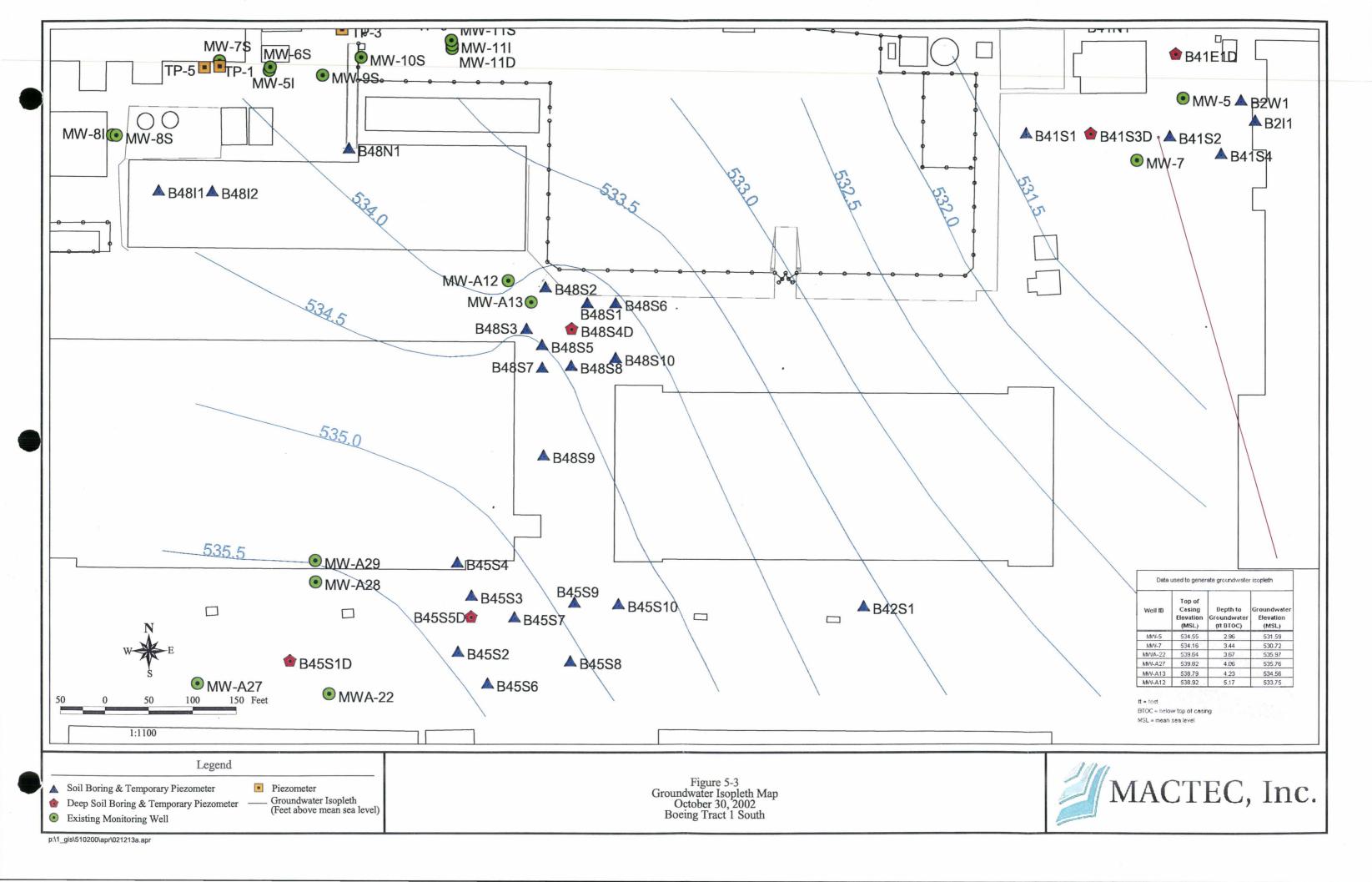


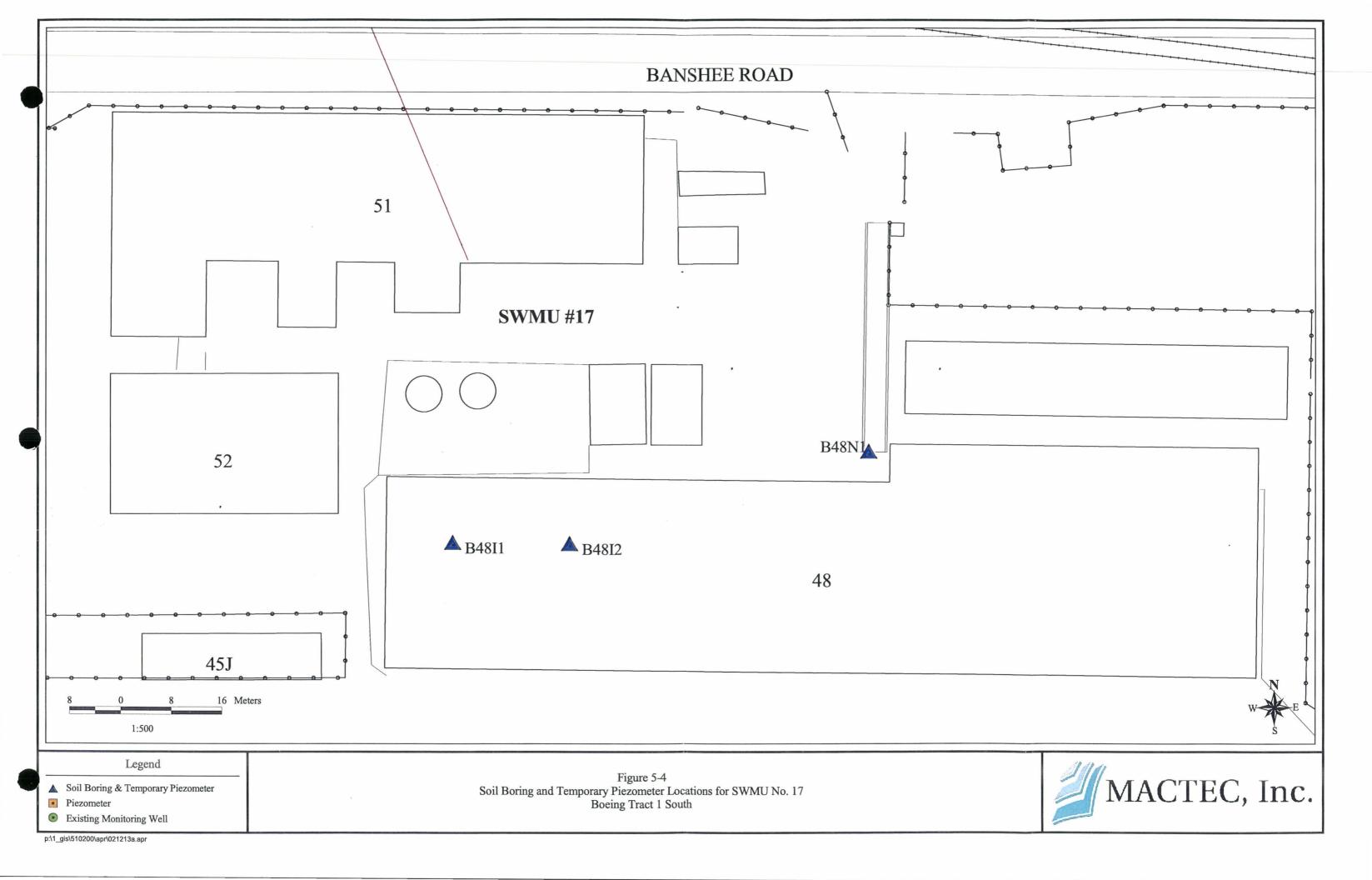


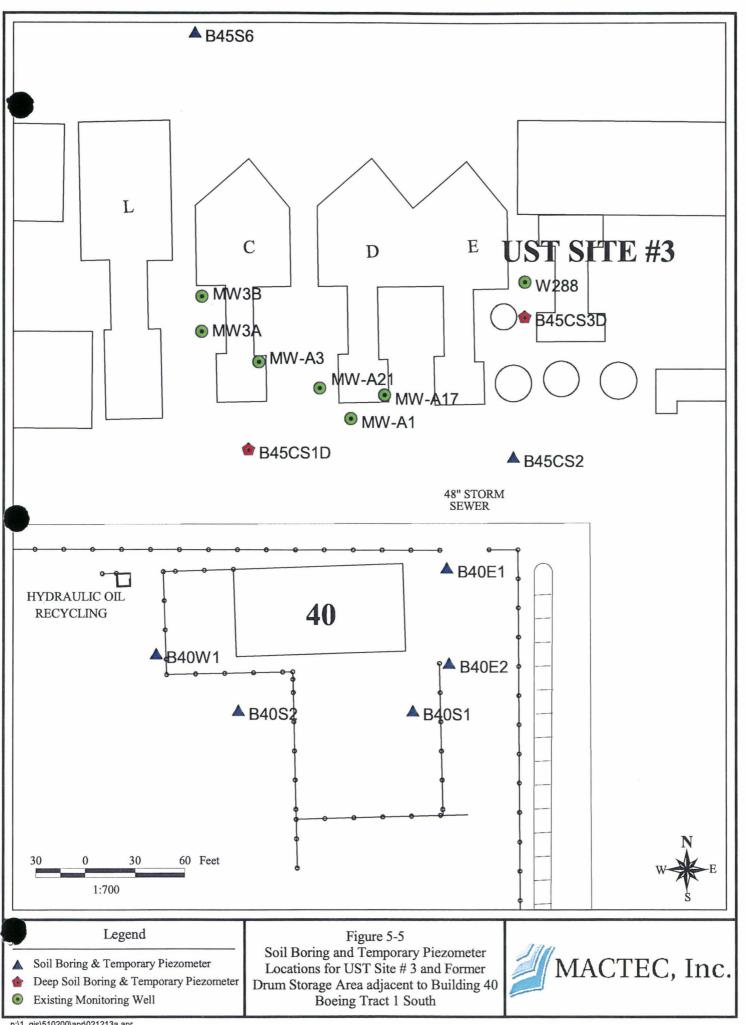


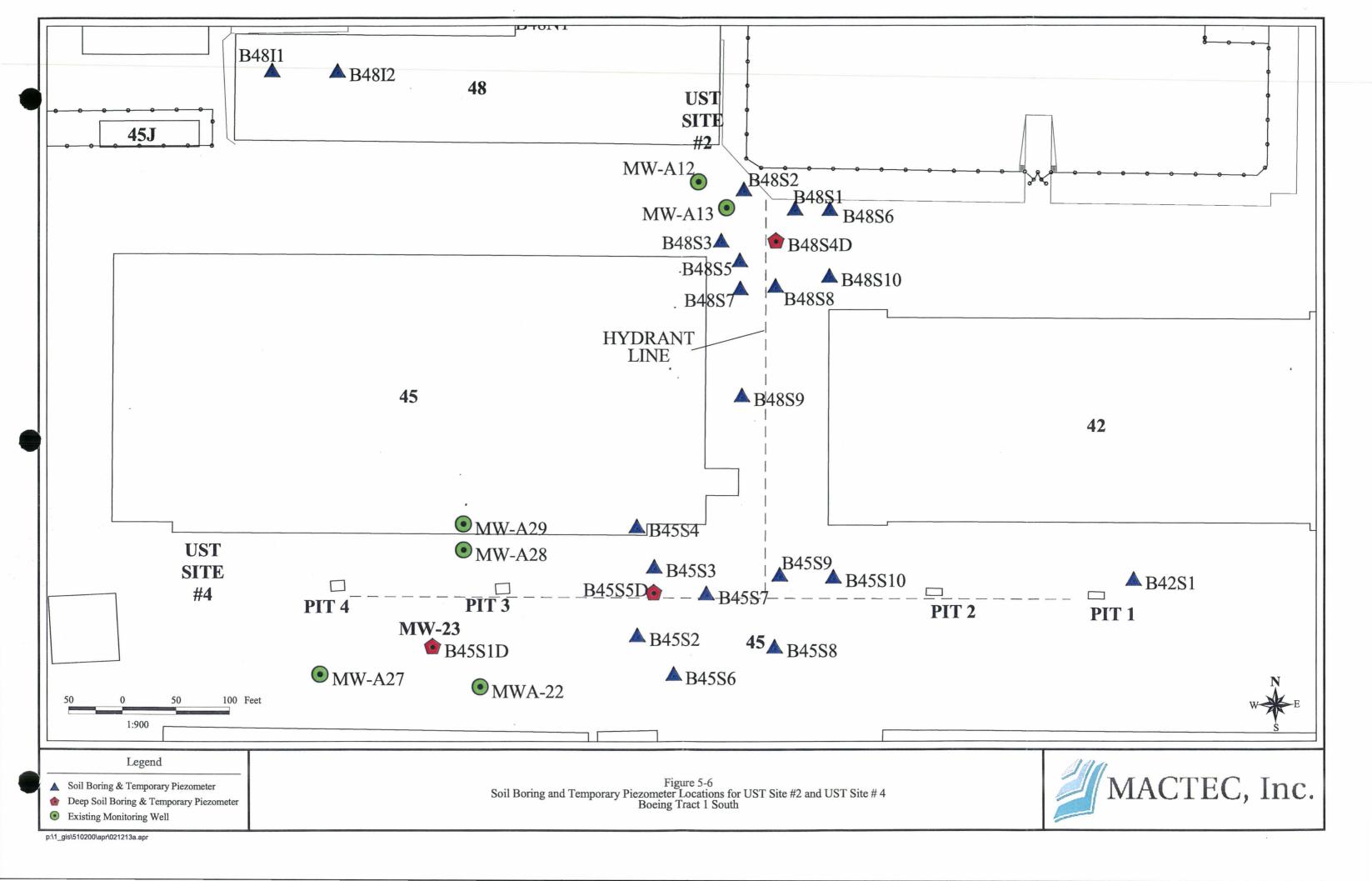


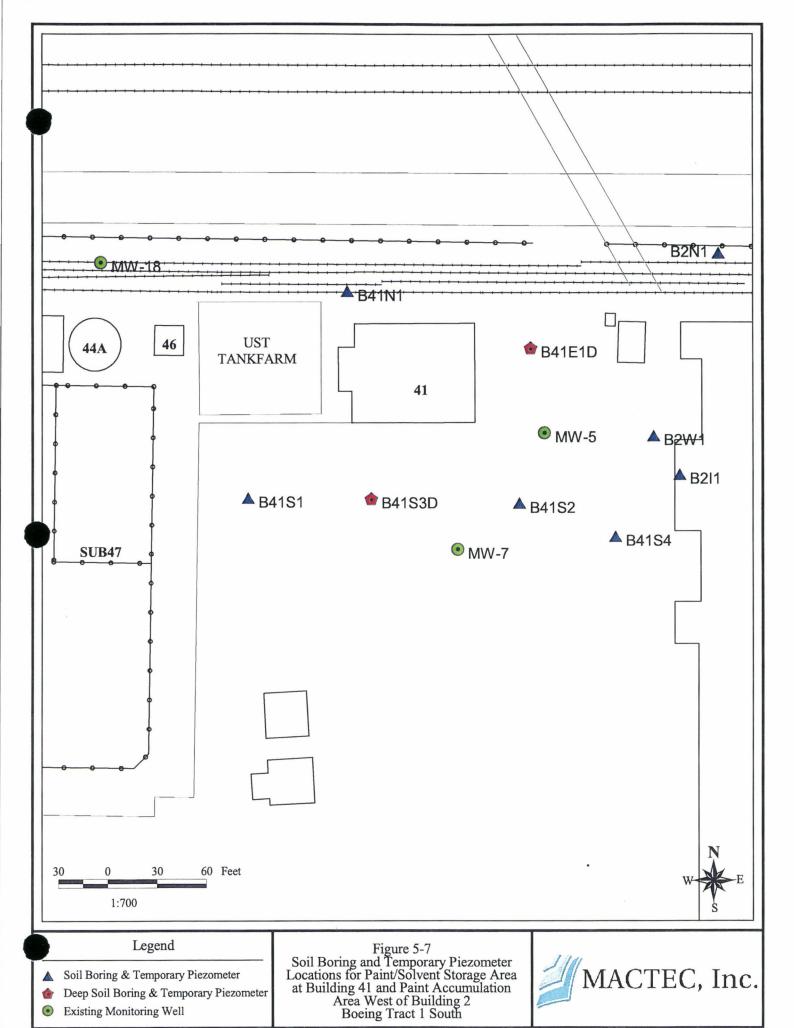


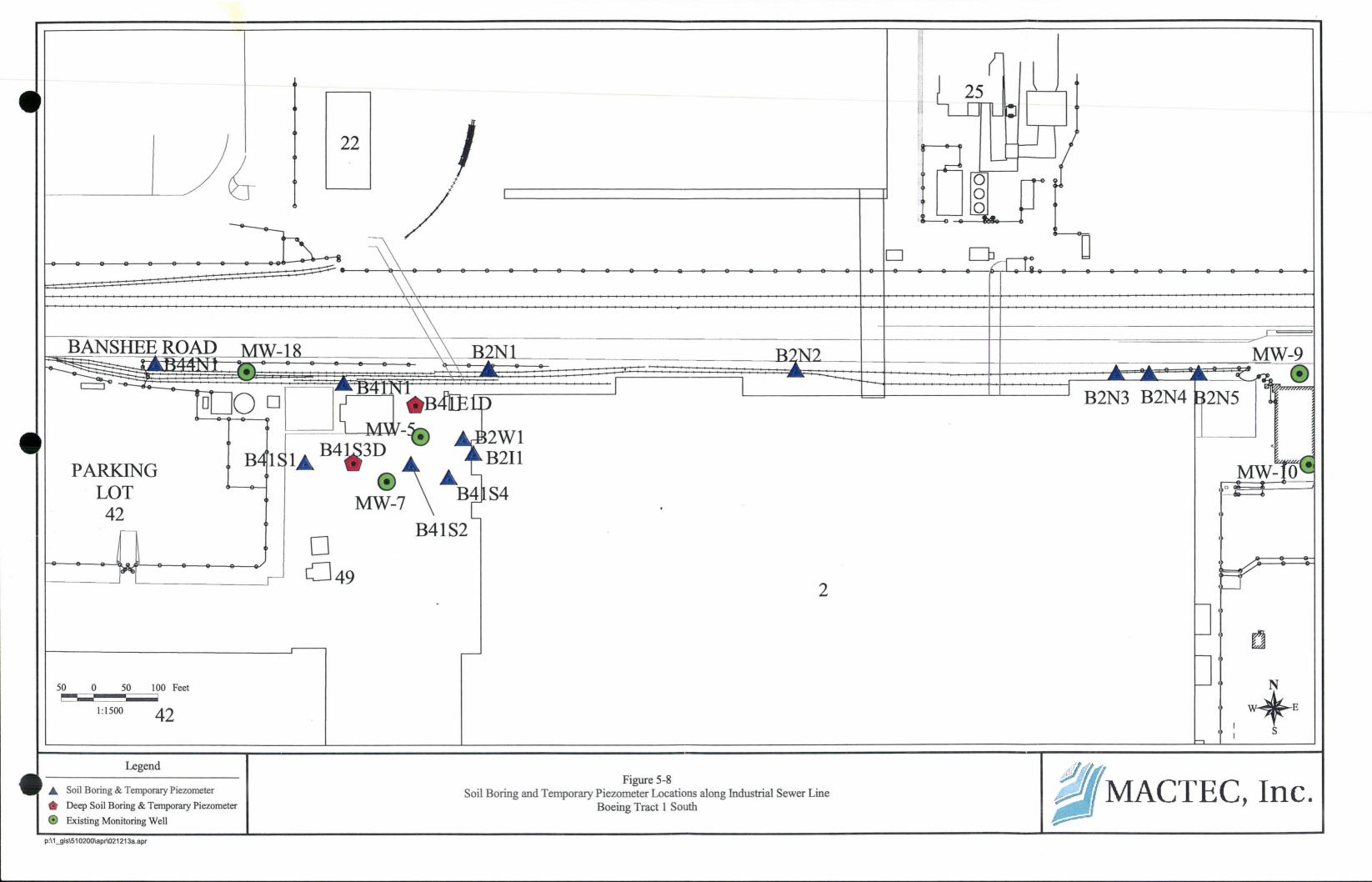


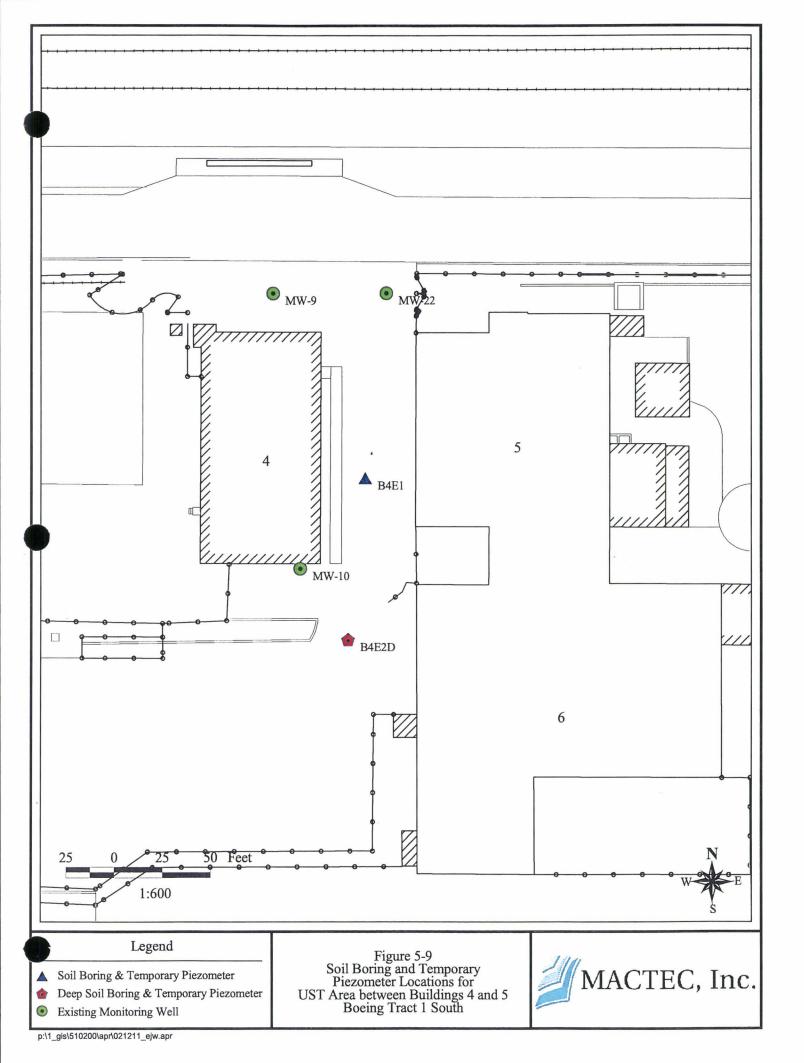


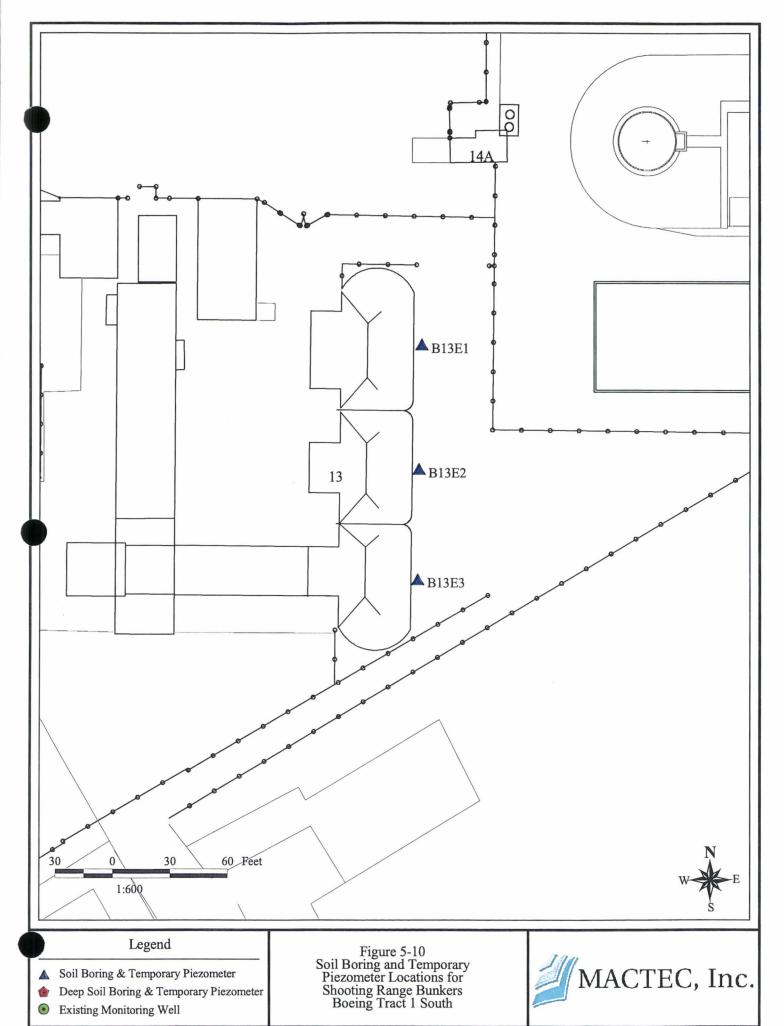












Appendix A
Soil Boring Logs

SWMU No. 17

	MACTEC				_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B4851
	A	VIIIC				Boring 			Logged by: ゴ. FZIONEZ		Project No. 510200
7	Field	ield Location: Resc 48 7							Drilled by: Roberts Environmental Drilling Date:		
	2	Tumu 17	7	B4	81176		뒥	N.	Drilling Method: Ge	oProbe	11/11/02
					- 6				Sampling Method: 2" macrocore		Sheet
				<u> </u>] of
									Hole Diameter: 2"		
		og		(in.)	Ana	lysis/Test			Total Depth: 16	,	
	Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple tion		CS	Water At:	•	
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
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	MACTEC Log of Exploratory Boring						Client: Boeing	Location: Tract I South	Boring No.		
7.00							Logged by: Project N 510200				
Fi	eld Loca	ation:		_ FBLO	127			Drilled by: Roberts	Drilled by: Roberts Environmental Drilling		
	SWMI	117				4		Drilling Method: Ge	oProbe	11/11/02	
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								Hole Diameter: 2"			
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	Depth (ft.) Graphic Log	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS	, Vuloi / K.	·		
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UST Site #3

		MAC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract South	Boring No. R45CS1D
						-			Logged by: 7	FRIESNIM	Project No. 510200
	Field	d Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
							A D	2	Drilling Method: Ge	oProbe	111402
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		Fog]	(j.)	Anal	ysis/Test			Total Depth: 79	,	·
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									Description:		
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Ø1	MAC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract South	Boring No. 1845 CS2_Project No.
Field	d Locat	ion:				¥	<u> </u>		Environmental Drilling	510200 Date:
						·	'	Sampling Method:	2" macrocore	Sheet of
								Hole Diameter: 2"	· · · · · · · · · · · · · · · · · · ·	1
			<u>c</u>	Anal	lysis/Test			Total Depth: 16		
Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & IO	Time	USCS			
								Description:		
2								0-1.5 Co.	NCRETE N ASSESSED	GRAVAL
								1.5 - 2.5 B	LACK GRANDLY CLAY , LOW MONTHER, V. SIR	LIGH PLATTIC.
4				۵					DIUM GREENISH CROY CI W FLACTIC, LOW MOIS	• •
		$ \setminus / $							ED FIRM FE MOTTEN	
6		X		0	845(\$2-6	1545	}		or change to a ligh Greensh grey	MT
8				0			<u> </u>		LIGHT LUGHT TAUNISM ! AYEY SILT . LOW LOW P	
		$\setminus A$					}		MOD. MOISTURE, MEDE SOFT. Increased Fe Mo	•
10		X		0			<u> </u>		ZED ZONE IN CLAYEY BLUETY COLDRED ZONE)	
12				0			}		DARK GREYISH BROWN S PLASTIC, LOW MOUTURE,	- 1
-		\setminus / \mid								
14		X		0			-			
16								16 BOM		
18										
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	an.	ЛАС	TEC	L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
	11	VIII.C			E	Boring			Logged by: ゴ.	FRIESNER	Project No. 510200
	Field	Local	tion:				4			Environmental Drilling	Date:
							•		Sampling Method: 2		Sheet
									Hole Diameter: 2"		
				in.)	Ana	lysis/Test			Total Depth: 64	, 1	
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & IO	Time	USCS Symbol			
	2			24 "						UCCETE, GRAVEL BI SAUDY FILL MATER	1
	4		2	44°	0	B45CS3D-6 B45CS3D-6) C&o5		5-1B ME	LICHT GRETISH CLAYEY' SILT, LOW moderate moiston, TO MOTIFING.	TAN
	3		3	26 ^{(²} Ø3 ≈	0			· [18-20 Mes be	TENTURATED + Soften THE GREYISH DROWN HOW PLASTIC, MID. LO	SILT WAYER SIC
1	46		4	٥	0				7.T UP 17	blim on resure	SIT
1 2	8		5	4B	0						

	MAC	TEC	L		Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
		TLO	<u> </u>		Boring			Logged by:		Project No. 510200
Fiel	d Loca	tion:						Drilled by: Roberts	Environmental Drilling	Date:
						- N	7	Drilling Method: Ge	oProbe	11/20/02
								Sampling Method: I	Dual Tube Sampler	Sheet 2 of 3
1										~ ~]
	 	1		T	vois (Total	Γ		Hole Diameter: 2.12	25"	
	Log	}	/ (jn.)	Anai	ysis/Test			Total Depth:		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS	Water At:		
	Ō	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(FF)		F	9 6	ļ		
-		\setminus						Description:	IND DRILL	
	1									
	1	6 X	48"	0				28- 32.5	CREY CLAY, HIGH	
]		mod low moisture	
									to med soft.	<u></u>
32	1			0					Wet a soft zone	ut 30.5-385
]	$ \setminus / $								
],\/		0			}	32.5-37	MEDIUM GREYISH FAL HIGH PLASTIC, LOW M	
		7	48"						MED F. EM FIRM.	3121023
							}		FR MOTTLING ABUNDA	NT UNIFOCA
36 				0						
_							}	22 0 2		
		$ \setminus / $					}		LAY WILLSS FOR MOT	f
		8 X	48'	Ó						
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									LAY, HIGH PLASTIC LO	
4 0		()		0					Flam) Firm	
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	∅ N	1AC	TEC	L		Explora	tory		Client: Boeing	Location: Tract I South	Boring No. RY5CS3D
	IV.	1710				Boring			Logged by:		Project No. 510200
	Field	Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
							甘	P	Drilling Method: Ge	oProbe	11/20/02
ļ							·	•	Sampling Method:	Dual Tube Sampler	Sheet 3 of 3
									Hole Diameter: 2.12	25"	
Γ		0)		î î	Anal	ysis/Test			Total Depth:		
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	Water At:		
\mid			7	_					Description:		
H			9	361					40.5 - 43.5	MODIUM GER 6	ZENO IS II
L	$\overline{}$		' /\	36" pest						GREY CLAY, HIM	PLASTIC.
4	3		/		0	!				LOW MOISTURE , FI	ZM V. FIRM.
	-									SOFTER HIGHER MOIS	tures zone
_				48"						AT 41,5'.	
_			/°/\	36" push					43.5 - 48 GOL		
46					Ò					AT SOFTER (Med. Frem)	
	-			48"/				-		more moisture (mod. low)	
			$_{\prime\prime}$	1				}			
			"/\	36 Just		<u> </u>		-	48-56 Dage	BROWN SILT / WATER 51	LT.
49	\Box	4			٥				1-	us Praeme la consul	11-0
	-	ľ		48"				}	Less (they of depth organi	IC MATTER
*	\exists		\sim	36704							
	\dashv		7\	المراجعة				}	Become of 5	s softer + more moist	1452
52		*		-	0			-			
	\dashv			0',				}	56- Ma	O GROYLEH BROWN	SILTY
		/	3 X	34"						AY MED-HIGH PLASTIC	1
	-			IN HOLE)				-		PT/V. SOFT	
3		K		Ī							
Sb	, 🕂	þá		12"	0	· [-	BE RETRIES	T AT 64 COULT	NOT
				-							
	\exists			-				}	TEMPORARY PI	EZOMETER SET M	- 63'
			15 X	-	0				WITH 5' of	SCREEN.	
		ľ		<u> </u>				-	CASING PULL	6D UP TO 55'	
	\overline{A}		/ \					-			

2	MAC	TEC	L		Explora Boring	tory	,	Client: Boeing Location: Tract South Logged by: RIBNOR	Boring No. BY6CS3 Project No.
			<u> </u>					22. FRIBBLIOR	510200
Fiel	d Loca	tion:					A.	Drilled by: Roberts Environmental Drilling	Date:
•						7	F	Drilling Method: GeoProbe	11/20/02
								Sampling Method: Dual Tube Sampler	Sheet
į									4 of
								Hole Diameter: 2.125"	
	g ₀		ii.	Anai	lysis/Test			Total Depth: 64'	
€	Graphic Log	ion	Sample Recovery (in.)	PID	ole Ijon		S E	Water At:	
Deoth (ft.)	Grapl	Sampler	Samp	(ppm)	Lab Sample Location & ID	Time	USCS		
			 				1	Description:	
	_								
	1					 	-		
]	WELL SET AT 62" - 5	scren
							-	CASING PULLEDUS 10 SS	,
_]	(with Market 10 33	
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Former Drum Storage Adjacent to Building 40

鎖N	1AC	TEC	L	_	Explora	tory	,	Client: Boeing	Location: Tract I South	Boring No.
AND IV	1110				Boring			Logged by: J. 1	ZIESVEK	Project No. 510200
Field	Locat	ion:			/ l e.				Environmental Drilling	Date:
				,	CAOCA	Va Va	1	Drilling Method: Ge	oProbe	11/14/02
			Γ	BLAG	7 & T		•	Sampling Method: :	2" macrocore	Sheet
				4	4					of
			٤		۱. (Hole Diameter: 2"		' '
			2	Ana	lysis/Test	Γ	T	Total Depth: 12		_l
E	Graphic Log	¥ 5	Sample Recovery (in.)		, e		တ လ		•	
Depth (ft.)	sraphí	Sampler Location	ecov	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	774.	**************************************	
		Si	10 &		8 505	-	00	L		
		\ /]	Description:		
4		$\cdot \setminus /$						0-05' sou	CHETE 4 SPAYEL BAS	6_
		$' \setminus $	48"					0.5 - 2.5	BLACK GRANBLEY CLA	6
	ļ] [MED FIRM FRM, L	ورواهم سع
		/		0					MED HIGH PLASTIC	
\exists	1								ED DARK GESTISH T	
		\setminus / \mid					 		LAY SIETY CLAY MED	
		2 X	44"	Ö					PLASTIC Fe Ma	
\dashv	İ	- /\	44					4.5-17 64	T Charles to LIGHT	- TRUUISH
\exists		/ \						Si	LT MED SOFT, MODE	
_	K			0			-	<u>u</u>	MOTTLUC	
		\ /							/ LANC	
		\/		0			-	T	-	
		3∖	36"							
		/ \					}			
								12' BOH		
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继刊	MAC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No.
-		,,,,		L.	ormy			Logged by:	FRIEZHEL	Project No 510200
Field	d Loca	tion:	_						Environmental Drilling	Date:
			12	<u>No.</u>]	* ** *,	F	D D	Drilling Method: Ge	oProbe	111/12
			35		. ! \$\tau_340			Sampling Method:	2" macrocore	Sheet
			•	(340	6 5				(of)
			· · · · · · · · · · · · · · · · · · ·	·	<u> </u>	_	,	Hole Diameter: 2"		
	₿o-		(ii)	Anal	lysis/Test			Total Depth: 16		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID	Lab Sample Location & ID	و ا	USCS Symbol	Water At:	•	
å	Gra	Sam	San	(ppm)	Lab San Loc & IC	Time	Sy C			
_		Λ /	1					Description: 36610	1135	
2								0-0.5 Conc	note w/ Geaver BASE	<u> </u>
			484					25-3 BLA	UE GROWENT CLAY	MED-HIGH
		/ \						71.46	TIC, LOW MOISTURE,	HARD
4		(SPEYISH TAN SIUTY	
		\setminus				-			PLACTIC, MICO PIR	
6			//	M				8-14 MED	LIGHT TANNISH GRE	T CLATEY
		3	42"					STL	T, met-Low PLAST	۲۱۲ ,
								Fe	MATLING ME	D 20-7
8				12_			}		****	
		$ \setminus / $							DIMED DARK GRE	
10		3	28"	o			-		INT (SILT. LAW/NOW)	
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			-				-			
12			-	0						
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14		4	20"	6			-			
			20				-			
16							-	16 BOH		
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18										
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20			-	 		\dashv	-			

#N	/IAC	TEC	ı	-	Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
l IV					Boring 			Logged by:		Project No. 510200
Field	Locat	ion:		31AC 40	7 @ 184	10C)	la.		Environmental Drilling	Date:
			1	40	<i>i</i>	8	A	Drilling Method: Ge	oProbe	11/14/00
					8	4052		Sampling Method: 2	2" macrocore	Sheet
					⊗ _i	D				of
					•	0¥05	•/	Hole Diameter: 2"		
	Ď,	·	in.)	Ana	lysis/Test			Total Depth: / 6		
(¥)	Graphic Log	i i i	le /ery (DIO	a no		S 2	Water At:	•	
Depth (ft.)	Grapt	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
	 ·	/						Description:		<u> </u>
		$ \setminus $								
, -				-		ļ		0-3' Asp	half + gravel base	
	·	Λ						3-4.5 DAEK	BROWN TO BLACK (PAVOLY
									T, NED YIM PLASTIC.	Yeng Fire Ha
4				3			1 1	Lb _M	- MOISTURE	
									D LIGHT GREETISH TH	
		\setminus / \mid					}		T, LOW PLASTIC, MI ED SOFT.	D FIRM TO
6		\vee		3	B4051-6				20 3071.	
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8									1345	
-	ſ	\ /					}	14-16 MED		·
	j	\ /					ŀ		bley silt clayey ? Platty, Med Firm, I	
10		\vee		2.						
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18							F			
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#N	ЛАС	CTEC	l	_	Explora	tory	·	Client: Boeing	Location: Tract I South	Boring No.
	V111C				Boring			Logged by: J. F	ZICSWAL	Project No 510200
Field	Loca	tion:							Environmental Drilling	Date:
						\$		Drilling Method: Ge	oProbe	11/14/02
								Sampling Method: 2	?" macrocore	Sheet
										l of l
			<u>,</u>		······································	1	. ,	Hole Diameter: 2"		
	Đ _O		(in.)	Ana	lysis/Test			Total Depth: 16		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID	Lab Sample Location & ID	e e	SCS	Water At:		
Ö	<u>.</u>	Sar	Sar	(ppm)	Sar Loo	Time	o s			
				ļ		ļ	4	Description:		
\dashv			8"					o- is' Asp	HALT + GRAVEL BASE	•
2		X	,					1.5-4.5 B	LACK GRADERY CLAY	. Hah
]	<u>}</u>	LASTIC, LOW MOIST	seb, v. Fren
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								4.5-13 ME	D LIANT GRETISH TA	en cruces
		$ \setminus / $			B4052-6	1355	1 }		r, Low Plante, Add ISTURE, MED FIRM	
6			28 "	0	•	+			T. Fe MOTTLING.	
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8	,	$\langle \rangle$		0			}			
		$ \setminus / $						13-16. MED 1	ARK GREY SILT OA	YM SKIT
10		$\mid \lor \mid$					<u> </u>	<u>/w/</u>	TO MED FIRM, LOW	MOLETURE
		$ \ \ \ \ \ $	22'							
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	MAG	CTEC	L	-	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No.
********					or mg			Logged by:	FRILSWER	Project No. 510200
Fie	ld Loc	ation:						Drilled by: Robert	s Environmental Drilling	Date:
					5	4	N N	Drilling Method: G	eoProbe	11/14/02
								Sampling Method	: 2" macrocore	Sheet
										l of (
	- 			, .				Hole Diameter: 2"		
	g,		(j.	Anal	ysis/Test			Total Depth: / (†	
the C	Graphic Log	Sampler	Sample Recovery (in.)	PID	Lab Sample Location & ID	<u>e</u>	USCS	Water At:	•	
غ ا	5 5	San	San	(ppm)	Lab San Loc	Time	Ϋ́			
_								Description:	ASPHALT & GRAVEL	Pres
_					•			0-/4		
2	1	1, X	44"						H PLASTIC, LOW MORE	
	1							V. F	PEN / MARS	
-	1	/ \								
	1		1						D LIGHT GREYIM	
									AYEY SILT, LOW PL LOD. MOISTURE, MED	
6		2	40"	0 =		36	TEF		ED SOFT. FEMOT	
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8				0					DARK GREY SIUT, W MOISTURE, MED 1	
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UST Site #2

#N	/IAC	TEC	Ĺ	-	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. 348 S.1
					Boring			Logged by: 그:	FRIENEL	Project No. 510200
Field	Locat	ion:		•				Drilled by: Roberts	Environmental Drilling	Date:
		FLI	८ ५८		tke	#	A.	Drilling Method: Ge	eoProbe	11/14/02
				─ L	-			Sampling Method:	2" macrocore	Sheet
				<u> </u>	<u>8</u>					of
								Hole Diameter: 2"]
	Ď,		in.)	Anal	lysis/Test			Total Depth: 16		
(<u>a</u>	Graphic Log	oler Iion	ole very (PID	lion lion		CS	Water At:	•	
Depth (ft.)	Grap	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS Symbol			
								Description:		
		$ \setminus / $						0-1.5	Cencrete (1011) and g	<u>~~l</u>
2		$\backslash \backslash $	30					<u> </u>	BASE	i di C
		'/\	<i></i>							
		/ \						1.5-3.5	1344 JANNISH GEEY	
4		$\langle \rangle$		3			}		CAYEY SILT LOW !	,
		\ /							Fe MOTILING	
6		\vee	34	467	Byrsi-C	1030	}			
-	ŀ	١ /ﺩ	77			-	-		lar change to med gra	
		/ \							gray. Increased to	MED FIRM
8	K			291			}		to med soft, low	PLANC
	l	\ /						8.5-12 MO	GREYCH BROWN S	LTY CLAY
10		$\sqrt{\ \ }$) il	4			-		DELOW PLASTIC, A	FF 20EL
		3/	24				F			
		/ \					F	12-16 Color	change to make	IGHT
12	K	<u>'</u>		2			F	GR	shange to make v	notelure,
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ar	MAC	CTEC	l	-	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B485 2
					Boring			Logged by:		Project No. 510200
Fie	ld Loca	tion:	8LX2 48	1 11	PKL			Drilled by: Roberts	Environmental Drilling	Date:
1		•	40	1 1		THE THE		Drilling Method: Ge	oProbe	11/15/02
}				E	GRASS	<u> </u>	,	Sampling Method: 2	2" macrocore	Sheet
1					BUR BUR	S1			 	of
ļ					848.2848 848.2848	•		Hole Diameter: 2"		' '
 	1		T _	Ana	lysis/Test	[<u> </u>
ء ا	, g		Sample Recovery (in.)		<u> </u>	1	- L			
Death (#)	Graphic Log	Sampler	mple	PID (ppm)	Lab Sample Location & 1D	Time	JSC.	Water At:		
	Š Ö	S C	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(Pp)		ΙĒ	9 6	 		
-	-						1	Description: 1055	Begin	
]	0- 35 ME	D LIGHT BROWNISH ORK	T GREYEN
2	-	li X	48"					BRO	WU GRAVIOLY SIETY C	יאל,
-	1			 			1	7 0 U	DW PLASTIC, LOW MOIST	noe.
		// \		4						
4	1			24				2.5-9 Me	D LIGHT GEET TO G	PEYICH HOLL
]	\		67					LAYER SILT, LOW PLA	. 1
			,,	 					ON MOISTORE WI ME	
6		2	38"				t		MOISTURE W DRITH,	
							-	9-13.4 DARE 1	FROWN SILT, NOW PL	unc,
8 8		/ \		2					R (WOOD)	PROAUE
							-	13.5-10 AND		
10			32''	30			t		DADY GREY SILTY O	
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	#N	л а С	TEC	L	_	Explora	tory		Client Boeing	Location: Tract I South	Boring No.
6	10	IAC	·		E	Boring			Logged by:	FRIESWOR	Project No. 510200
	Field	Locat	ion:	·					Drilled by: Roberts	Environmental Drilling	Date:
l					,		#	A A	Drilling Method: Ge	oProbe	1115/02
									Sampling Method: 2	2" macrocore	Sheet
								!			of
							,		Hole Diameter: 2"		
ſ		Ð		in.)	Anal	ysis/Test			Total Depth:	16'	
	(<u>m</u>	Graphic Log	oler ion	ole very (PID	ole ion		CS	Water At:		
	Depth (ft.)	Grapl	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS Symbol			
f			. /						Description: III &	Besil	
-			$\setminus /$						0-1.5' Conc	nete + granel base	
	2		\bigvee								
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				-						TETZ (MEAN)	
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#N	ЛАС	TEC	1	_	Explora	tory	,	Client: Boeing	Location: Tract I South	Boring No. BY8S4D
1	V11 1C				Boring			Logged by:	FRIENEL	Project No. 510200
Field	l Locat	ion: Bro	-	_[]	PKG.			i	Environmental Drilling	Date:
		48		1652	GEASS	N N	1	Drilling Method: Ge	oProbe	11/15/02
	R	4853_			3		•	Sampling Method:	Dual Tube Sampler	Sheet
	•				:348~ C14281/8					(of)
			ţ		7407 A D	,		Hole Diameter: 2.12	25"	
	5		Ē	Anal	lysis/Test	}		Total Depth: 7	6	
Ē	Graphic Log	oler Iion	Sample Recovery (in.)	PID	Se Hon		CS	Water At: eru		
Depth (ft.)	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
		 		 				Description:		
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							-	RUND RO	re to 76'	
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	i I	VIAC			t	3oring			Logged by: 7. F	ZILSNOR_	Project No. 510200
,	Field	Loca	tion:	1_						Environmental Drilling	Date:
1	عت	سا:				_	Z	P	Drilling Method: Ge	oProbe	11/11/0-
	_	5					S		Sampling Method: 2	2" macrocore	Sheet 1 of 1
-		\leq				•			Hole Diameter: 2"]
		D)	T	Ē	Ana	alysis/Test			Total Depth: /(。		-
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	JSCS	Water At:		
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			\backslash						Description:	DORECTE W/ GRAVEL BASE	
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ľ			\ \ \	32						LIGHT GEOVISH TAN CLA W PLASTIC, LOW MOISTING	
-									F.	Moinive.	
				y	24				3-10-7' MED L	HT GROWSH TAN	CY MONTH O'RE IN PRO-
			Λ /	1						Y SILT, LOW PLACTIC MOD	
 										MOTTLING. Petro ador .	3
4	-		2 🖔	28	357	B4855-6				LOW PLASTIC, MOD MOIS	mer un
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T	VIAC			E	Boring			Logged by: 5.	RIECNOL	Project No. 510200
Field	Loca	tion:							Environmental Drilling	Date:
						NA NA	A	Drilling Method: Ge	oProbe	1/19/02
							•	Sampling Method:	2" macrocore	Sheet
										of
γ			_				, 	Hole Diameter: 2"		
	DO:		Sample Recovery (in.)	Ana	lysis/Test			Total Depth: 16	<u></u>	
Depth (ft.)	Graphic Log	Sampler	overy	PID	Lab Sample Location & ID	<u>a</u>	SCS	Water At:		
å	S. G.	San	San	(ppm)	Lab San Loca	Time	Syr			
			1					Description:		
						-	1	0-1.5' Concr	ete ul Gravel Buse	
2			au		·					
-							1		D LIGHT GREYISH TAN C	
		// \						1	to ~ 4' then moderate	moisture.
4				0		<u> </u>	1 1	-	med firm (to 3') to merrily a Throughout	med soft (be
		$ \rangle /$							- FILLING (HISOS	
5			36	0	B4856-6	1500	}	9-11.5 MeD	DARK BROWN SILT,	DIASTIC
			16		0.000	70-0		·	moistura, men firm	
							-	11.5-16 MED GO	LEY CLAYEY SILT SILTY	CIAV
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	<i>a</i> 1	VIAC	CTEC	l	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
						Boring 			Logged by: 7.	FRIESHER	Project No. 510200
	Field	d Loca	tion:							Environmental Drilling	Date:
ı							A A	2	Drilling Method: Ge	oProbe	11/20/02
			i						Sampling Method:	2" macrocore	Sheet
۱											of
									Hole Diameter: 2"		
		Ď _o		(jn.)	Ana	lysis/Test			Total Depth: 16		
	Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple	0	SS	Water At:		
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
Ī	_			1					Description:		
ł					}			-	0-1 Can	crete a gravel Base	
-	2									•	
			'/\	45						FLASTIC LOW MOIST	
			/ \		19					D Fiem. To Montune	
ľ									2.5-6.5 M	TED LIGHT GREYISH TAN) CIAMA
-						!				SILT, LOW PLASTIC, MOIT MATE SOFT. TO MOTTU	· · · · · · · · · · · · · · · · · · ·
4				36°	20						
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			// \	JÆ	133 15					ium GREY GRIODISH G	
F					(3)	2				MEY SILT, LOW PLACE	MEDSOFT.
-			$ \setminus / $						Fe	MOTTLING (LESE THAN	NOWE)
1	الــه		$ $ \langle	32"	14				Pore	o oder Promisent THE	roughout
l	+	:						}			
Γ									9-15.5 DARK	. BROWN SILT, NOW PLA	stre,
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\vdash			\setminus /							y organic (wood) layer	4 /l'.
1	4		\bigcup	/4 ¹	8			ļ	· Deala)	4 and an in City and I layer	
	4		$^{T} \setminus [$	•				}	155-16 MED 1	DARK GERTISH BRAND S	OUTY CLAY
Γ					_			[LOW PLASTIC, May mo	, ,
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L								F	16 BOH.		
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₫N	ЛАC	TEC	L	-	Explora Boring	atory	,	Client: Boeing	Location: Tract I South	Boring No. B4858 Project No.
Field	Locat	tion:	<u> </u>			¥	 	 	Environmental Drilling oProbe	510200 Date: 20 02 Sheet
				Ana	lysis/Test	1	T	Hole Diameter: 2" Total Depth:		of
Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
2		2 3	34" 24"	3 437 98 117 45	BH858-7	J510		1.5-5 Me 5-10.5 Me GA Me Retros 10.5-12.5 D low mod	encrele a gravel bas IED Light greyish to chayen silt, low mouse med firm, Fe Motte DIUM GREY GREENISH YEY SILT, Med Low Pr and beyoning 5.5' ark brown silt, Man ; moisture, med firm, te (wood) - Mo od NOT CLAY, MED SOFT	lastic,
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	Ø N	ЛАC	TEC		_	Explora Boring	itory		Client: Boeing	Location: Tract I South	Boring No. BH8S9
					<u> </u>	Joining			Logged by:	FRICHER	Project No. 510200
	Field	Locat	ion:						1	Environmental Drilling	Date:
							¥ F	-	Drilling Method: Ge	oProbe	11/21/02
l									Sampling Method:	2" macrocore	Sheet
											of
									Hole Diameter: 2"		
		D)		(in.)	Ana	alysis/Test			Total Depth: 16		
	Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple		CS	Water At:		
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
ı				1					Description:		
ł					 	 			0-1' Angl	all Concrete w/ growel	buse
	2										
	-		<i>P</i> /\	32"			-			DARK GREYISH BROWL)
t										WOUT CON, FRA HARD	
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	-							l		M. SLICHT FR MOTTLE	
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1	-		z	36"	-			ŀ		LIGHT GREYEN TAU	i i
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L	الم	ļ	3 🗸	3o"	8					CANIC MATTER (Wood)	
	\dashv		\wedge	<i>5</i> 0				-	14.3-16 MED	DARK SILTY CLAY	New Process
1			/ \							MOISTURE MED SOFT.	
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	MAC	CTEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. RYSSIO Project No.
Field								7.	Environmental Drilling	510200 Date:
Field	Loca	uon.				A	12	Drilling Method: Go		11/2/02
						-	γ.	Sampling Method:		Sheet
									2 /////////////////////////////////////	of
								Hole Diameter: 2"		
			(in.)	Ana	lysis/Test			Total Depth: (6	>	
Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple tion	60	SS	Water At:		
Dept	Grap	Sampler	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
			1					Description:		
							1	2-1' (p	WESTE W Segrevel	Base
2		$\langle \cdot \rangle$	44				1			
_		'/\	/ -1					1-5' her	Sum Tonyish ten cl	ayen silt.
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4	÷			0]	Fe	MOTTLING. An	monia Olar
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6			36"	5					DIUM GREY (GREED)	
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		/5 \			483U-1	Than				CHTLY STRON
8		$\langle \rangle$		3						
		$ \setminus / $						7.5-11 Ch	ings to mad light sm	eyish tom
10			u	6			}	deb	DERATE MOISTURE	Monte
		3	ૠ "							
		/ \					}	11-14.5 DAD	EX BROWN SWT NO	SPLASTIC,
12				0					W MOISTING MEDI	
-		\					}	14.5-16 D	HOY GRAY ISH BROW HOY , MED PLASTI	C. MOR
		$\cdot \setminus / \mid$.,				-	r	MOISTURE, MED S	
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	M	MAC	CTEC	L		Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
						Boring 			Logged by: J	ENEZOP-	Project No. 510200
•	Fiel	ld Loca	tion;	Brox	45			•	Drilled by: Roberts	Environmental Drilling	Date:
			· \		(7	¥ A	A	Drilling Method: Ge	oProbe	11/18/02
		F.	<i>₹</i> / ~[-1 Ø)	- Frel Pi	7		Sampling Method: I	Dual Tube Sampler	Sheet
			•	L	B4551	D.					of
									Hole Diameter: 2.12	25"	
		50		2	Anal	ysis/Test			Total Depth: 43		<u> </u>
	3) 0	 <u> </u>	ery (i		e e	1	S O			
	Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USC	Water At:		
			- "-	0,2		20,2%	<u>'</u>	0,	Description:		
		1							Description.		
	_	-							BUND BON	E to 73'	
-		1							DCINO BON	E 10 75,	
-				•						pulled up 12' And	TED
Ĺ						:			Perometer (101 screen) insta	CED
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VIIIC				soring			Logged by: 5.	FRIESNER	Project No. 510200
d Locat	tion:	<u> </u>				<u> </u>	Drilled by: Roberts I	Environmental Drilling	Date:
					7	P			Sheet
							Hole Diameter: 2"		\ \ \ \ \ \ \ \ \
	T	ĉ	Ana	lysis/Test					
Graphic Lo	Sampler	Sample Recovery (i	PlD (ppm)	Lab Sample Location & ID	Time	USCS			
	/	1 -					ļ	6011× UI	
		V					D-1' CONCRE	TE - MANUEL BA	NS4
	$ ' \wedge $	44					1-3.5 BLACE	C GRAVELLY SILTY	LAY (CLAS,
			Ŧ						MILINAE.
	2	40"	89				SILT	LOW PLASTIC, MO	DERATE
			187	84552-7			<u>Fe</u> /	Morrusa	16 MED 34
	$\langle \rangle$		25				8	- SATURATED	
							9-12 Cour	CHANGE TO MED	LIGHT
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		2	AACTEC Graphic Log Sampler Location: Sampler AACTEC Sampler AACTEC Sampler AACTEC Sampler AACTEC Sampler AACTEC Sampler AACTEC	I Location: Sample (ii) Ana PID (ppm) 444 444 32 455	Analysis/Test PID (ppm) PI	Analysis/Test Jamble Recording Analysis/Test PID (ppm) PID (ppm	Location: Analysis/Test Samble PiD (ppm) PiD	Analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm) and analysis/Test FID (ppm)	Location: Location: Location: Location: Location: Drilled by: Roberts Environmental Drilling Drilling Method: GeoProbe Sampling Method: 2" macrocore Hole Diameter: 2" Total Depth: 12 Water At: Water At: Water At:

								Client Design	Landley Tours 10 H	Davis 33
	MAC	CTEC	1	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No.
								Logged by:	Friesher	Project No. 510200
Field	d Loca	tion:						Drilled by: Roberts I	Environmental Drilling	Date:
						P	A A	Drilling Method: Ge	oProbe	11/18/02
						•		Sampling Method: 2	2" macrocore	Sheet
										l of /
								Hole Diameter: 2"		1
		T	2	Ana	lysis/Test			Total Depth: 12		<u></u>
(f .)	Graphic Log	ja K	Sample Recovery (in.)		e E		လ် ဝ			
Depth (ft.)	Sraphi	Sampler	Sampl	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol			
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-				Description: 3861	1127	
, –		I.V	_					9-1' Concre	te a Granel Baje	
		$ ' \wedge $	44					1-4.5 BLACK	GRAVELLY SUTT C	CAY CLAY
		/ \						MED U. S.	HIGH PLASTIC, LOW,	MOISTURE,
4				34						
ᅥ	•	Λ					}	•	LOW PLASTIC MO	•
		$ \setminus / $		100				Met	FIRM TO MED SOF	
6		ZX	40	189			}	6-8.5°	DIESEL ODOR	
		$ / \setminus $		375	84553-7		ļ			
₈ -				290			}		HAVEE TO MOD LIGI SH TAU. Increased F	
							F			
							}	12-135 MED	GOEBNISH GREN SHT	t CLAY
10		3	36"	0				MED	LOW PLANTIL MOD	SOFT,
		/\						Men	MOISTINES . SULAM	I R MOTTU
		/ \					F	10 TUTI -		
12									PLASTIC, LOW MA	
		\ /		<u> </u>			-	M	CD PIRM, DRLAL	MC MATTE
14		\mathcal{N}	76"				L			
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NE PE	I	MAC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. 34554 Project No.		
			<u>-</u>	<u> </u>					Logged by: J	RIESUEL	510200		
Fi	ield	l Loca	tion:				ı	1	Drilled by: Roberts	Date:			
								Drilling Method: Ge	oProbe	111802			
							Sampling Method:	2" macrocore	Sheet				
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									Hole Diameter: 2"				
		Ď,		(E)	Ana	lysis/Test			Total Depth: しし	,			
	Depth (ft.)	Sraphic Log	pler	Sample Recovery (in.)	PID	ple	0	CS	Water At:				
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			1		
	コ			1					Description: 1142	BELIN			
-			$ \setminus $						0-1.5 CON	unete + Abravel Bar	· F		
2	\exists		[,]	36"									
	\dashv				-					THE PLASTIC, LOW			
			/ \						٧.	Firm HARD			
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	<i>2</i> #1	л Л	TEC	L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B45S5D	
	10		IEC		B	oring			Logged by: J. FERSNER Project No 510200			
	Field	Locat	ion:						Drilled by: Roberts Environmental Drilling Date:			
							¥	N.	Drilling Method: GeoProbe			
									Sampling Method: D	Dual Tube Sampler	Sheet	
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									Hole Diameter: 2.12	5"		
ı		Di .		. (2)	Anal	ysis/Test			Total Depth: 7	9.7		
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	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & IO	Time	USC	Water At:			
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1V.	1110	ILC		E	Boring			Logged by:	FRICENER	Project No. 510200		
Field	Locati	on:	L	 				Drilled by: Roberts Environmental Drilling Date:				
						뒫	A A	Drilling Method: G	eoProbe	11/18/02		
						Sampling Method:	2" macrocore	Sheet				
										1 of]		
								Hole Diameter: 2"				
	Đ.		(ju)	Ana	lysis/Test			Total Depth: 12	<u> </u>			
Depth (ft.)	Sraphic Log	Sampler Location	Sample Recovery (in.)	PID	Lab Sample Location & ID	<u></u>	USCS	Water At:				
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2		ιX	45"					1-2 BLACK GRAVERY SIETY CLAY,				
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	Field	Locat	tion:						Drilled by: Roberts I	Date:																
				The second secon					Drilling Method: Geo	oProbe	11/18/02															
									Sampling Method: 2	2" macrocore	Sheet															
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									Hole Diameter: 2"																	
		D		Ê	Ana	lysis/Test			Total Depth:	 																
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Field	Loca	tion:						Drilled by: Roberts Environmental Drilling Date:			
, ,,,,,	. 4004					¥		Drilling Method: G	eoProbe	11/19/02	
							Y	Sampling Method:	Sampling Method: 2" macrocore Sheet		
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								Hole Diameter: 2"			
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Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS	<u> </u>	· · · · · · · · · · · · · · · · · · ·		
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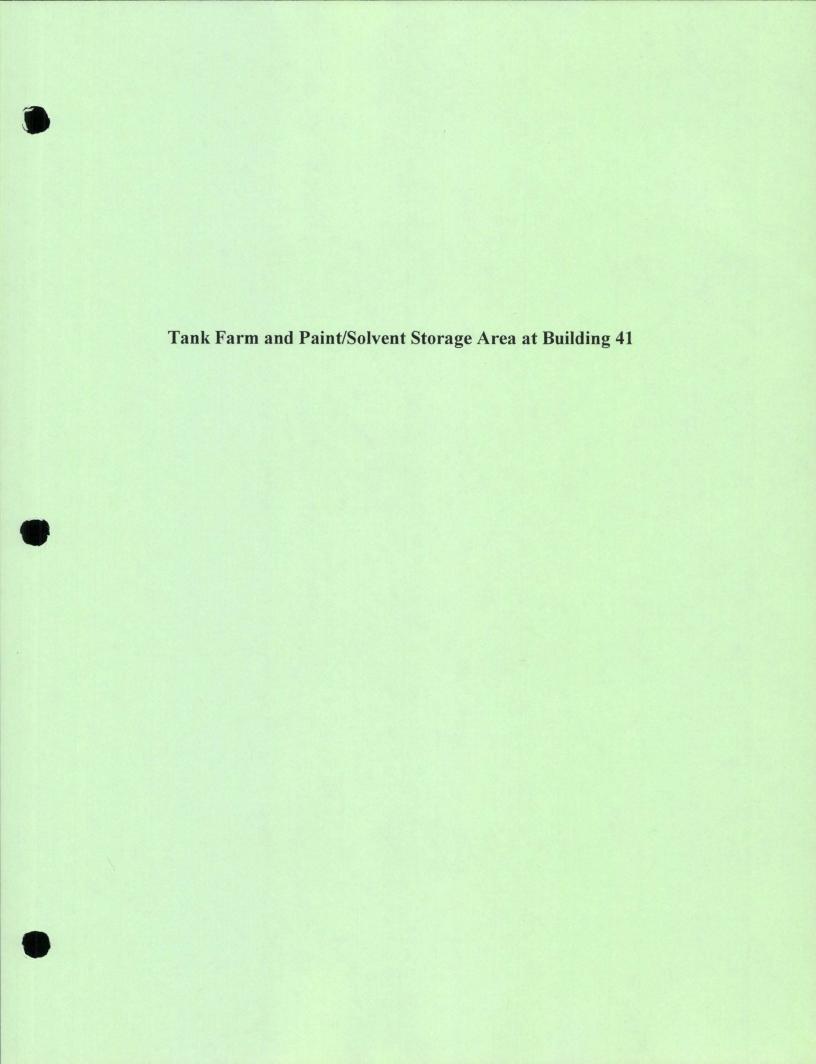
	a	MAC	CTEC	l	_	Explor	atory	7	Client: Boeing	Location: Tract I South	Boring No.
						Boring			Logged by: つ、「	RILSNER_	Project No. 510200
)	Fie	ld Loca	ation:						1	Environmental Drilling	Date:
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									Hole Diameter: 2"		
		D)		n.)	Ana	lysis/Test			Total Depth: 12		*
	9	Graphic Log	o e	le /ery (i	SID	ê e	7	SS Jo	Water At:		
	Deoth (ft.)	Graph	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
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Field	Loca	tion:				,	1	Drilled by: Roberts I	Date:	
						\rightarrow \frac{\rightarrow}{\rightarrow} \rightarrow \rig	A	Drilling Method: Ge	oProbe	11/19/02
						Sampling Method: 2	2" macrocore	Sheet of /		
								Hole Diameter: 2"		-
	5 0		5	Ana	lysis/Test	T		Total Depth: 12		-l
(g)	Sraphic Log	ion	ole very (i	PID	io je		SS	Water At:		· · · · · · · · · · · · · · · · · · ·
Depth (fl.)	Grapt	Sampler	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS			
寸	· - ·		1					Description: 246 B	ęu:	
		$ \setminus $						0-1 CONLE	WITE & Gravel Base	
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\dashv			44"			 			Granelly Sierry CLAY/ CLA	
一							1	21051	in, low noisture, V.F	EM MAKED
		(10		 	-		DARK GROVISH PAY REA	
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	ØN	1AC	TEC	L	_	Explora	itory		Client: Boeing	Location: Tract I South	Boring No.
						Boring			Logged by: J. FRIESNER		Project No. 510200
	Field	ورصد Locat			, Ru	DC 42	ω.	0		Environmental Drilling	Date:
					1_	•	স	A	Drilling Method: Ge		
						u_	_ 	Sampling Method:	2" macrocore	Sheet of	
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	Depth (ft.)	Grapt	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	Symt	Water At:		· · · · · · · · · · · · · · · · · · ·
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ŀ		-	$ \setminus $				-		0-15 Con	crete a gravel base	·····
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İ										MED PIRM. FE MOTH	
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ield	Locat	ion:						Logged by: JR	ics deal	Project No. 510200
				П			-		Environmental Drilling	Date:
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			k H ———]		Sampling Method: [Dual Tube Sampler	Sheet of
								Hole Diameter: 2.12	25"	
	D.		آج ا	Ana	lysis/Test			Total Depth:		
Depth (ft.)	Graphic Lo	Sampler Location	Sample Recovery (PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	Water At:		
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≥ N	MAC	TEC		_	Explora Boring	tory	,	Client: Boeing	Location: Tract South	Boring No. B41E1D Project No. 510200
Field	l Locat	lion:					A		Environmental Drilling	Date:
		æ,	Pc		BLDL 30 A	A	A P	Drilling Method: Ge	oProbe	11/12/02
			41	84181	SH02D 7	عدو ک) G	Sampling Method: [Dual Tube Sampler	Sheet of 4
f					1			Hole Diameter: 2.12	25"	
			- E	Ana	lysis/Test			Total Depth:		
Œ	Graphic Log	on on	le /ery (i	510	g e		S S	Water At:		
Depth (ft.)	Graph	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
			1			-	 -	Description:		
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		\setminus							BROWN SILT, WW NO	
		2 X	32'						PAIL WHILE (MOOD)	WRD HISH
8		/					<u> </u>	13-14 DARK	BROWN GRADING FO	HO GREWISH
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		$/ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$					}	500-	4 YORK MOIST AT 2	, 5'
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	₩ 1	VIAC	TEC		В	Boring			Logged by:		Project No. 510200
1	Field	d Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
ł							4	-	Drilling Method: Ge	oProbe	11/12/02
1									Sampling Method:	Dual Tube Sampler	Sheet
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1									Hole Diameter: 2.12	25"	
		D)		Ü.	Anal	ysis/Test			Total Depth:		
1	(E)	Graphic Log	ler ion	very (PID	lon jon		SS	Water At:		
1	Depth (ft.)	Grap	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS			
ŀ			7						Description:		
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			6	10					86-2.48	CHANGE TO MEDIUM	
f										WICE. CLAY FER F	12/-
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			\ /							GREYISH BROWN-TAN	
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		TLO			Boring			Logged by:		Project No. 510200
Field	Locat	ion:						Drilled by: Roberts I	Environmental Drilling	Date:
						\rightarrow \frac{\rightarrow}{2}	 	Drilling Method: Ge	oProbe	11/12/02
								Sampling Method: [Dual Tube Sampler	Sheet
										1 of 4
								Hole Diameter: 2.12	.5"	
			jn.)	Anal	lysis/Test			Total Depth:		
(F)	Graphic Log	oler Ijon	Sample Recovery (in.)	PID	ole Iton		CS	Water At:		
Depth (ft.)	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
	····	/						Description:		
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		9	36"							
		/ \	(CAY (CAY)	D			-			
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8										
		10 X	Orto	ery					•	
38			36" push Geny Gepausmo							
	•		RALVISMO					38-54 Color		
			48"c.				-	Change	?	
		11 X	56 push							
41			John H	0			-	•		
			48mc.				}		<u> </u>	
		2	3h"push				' [CL	AT RISTY REDOISE	4
44		/ \	ľ	6				Ci	Brown Through AY VERY FIRM TO	CLEAH
	[$\setminus A$	48"rec				-			
		13	01 Jush					1		
42	*	\longrightarrow					1	11/13/02		
			0/24"					1112.2		
48		14	-	-			}			
	ŀ	$\langle \gamma \rangle$	481				-			
		5	24"				-			
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\dashv			24"				-			
	Y	/	/24"							
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Í	1V.	[AC					tory				BAIEID
1						oring			Logged by:		Project No. 510200
F	ield	Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
				*			뒥	N N	Drilling Method: Ge	oProbe	1/12/02
									Sampling Method: I	Dual Tube Sampler	Sheet
											1 of 4
L									Hole Diameter: 2.12	25"	
		Ď.		Ē	Anal	ysis/Test			Total Depth:		
	Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple	os.	SS	Water At:		
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
			7	145					Description:		
\vdash			17	48"/							
54	\Box			-24	0						
	\dashv		\setminus /	48" 3c"					54-62	CLAT LESS RED/RUS	57Y 19176
Γ			18	36"						70 MEDIUM GRE	
-			$/ \setminus $							TAU)	
23	-	- 1				·					
<u> </u>		1		48"							
1.	-	ļ	9 X	36"				ł	<u> </u>	CLAY IS HARD	
			$/ \setminus$	-				ſ	62-69 Colo		
60		ľ		,				ļ		er change back of black Brown (north) colo	new
-			\mathcal{N}	48'				}			
			20 \	*				ļ	65 Beg.	oning to see pebble gr	avel
63		1		,	0			-		char	
	\exists			48"				-	169-72 Chan		
-	ゴ		ر X ار	3 <u>c</u> "					61-12 Chan	se color back to ha	vi Bushop
-				}			-	}			
65	7	K			0			F	72 Refusal m	hedrock (weathered)	
				5",				-	Rock 15	wet at the rock/clay	
	\exists	þ	2	36"					72' BOH		
							〓		12 001)		
69	\dashv	K		-	0		_	}			
_	\exists]	\setminus / \mid	74°							
		2	3	36				+			
.	7	}	/ \	F				F			

Str	MAC	TEC	L	_	Explora	atory	 -	Client: Boeing	Location: Tract I South	Boring No.
	VIAC	IEC		E	Boring			Logged by: J.	FRIESPEX	Project No. 510200
Fiel	d Locat	ion: 🚁		 		ž 1	J	Drilled by: Roberts	Environmental Drilling	Date:
		** -,				X		Drilling Method: Ge	eoProbe	11/8/02
	Fence	Piping	,	RLDG			***	Sampling Method:	2" macrocore	Sheet
				41						/ of
1								Hole Diameter: 2"		
	Ď,		Ē	∛ ⊈Ana	alysis/Test			Total Depth: 16		
Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple		CS	Water At:	·	
Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & 1D	Time	USCS			
								Description:		
-			ě.			1		0-4.5	Asphalt of gravel be	52
2		\downarrow	20 °					4.5-10 ME		
		<i>'</i> /\	do					SIL.	TYCIAY / clayen silt	moust.
		$/ \setminus$						<u> </u>	ed soft to med firm.	Fe mothling
4						 			no odor around B'	n olastic
						ļ			ned from organic n	
6			34"	143				15.5-16 Me	D-Dark grey clan,	med-high
		\wedge					}	P	lastic, med soft to s	oft,
	1	/ \							noist,	
8	K	$\langle \rangle$		166	Byini-8	1315	}	16' BOH		
	1	\ /								
10			~ "	22					······································	
	ł	Λ	36"							
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		\setminus / \mid			7					
14		X	24"	3			}			
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16	/			0			}			
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18										
		1								

	∅ N	1AC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No.
									Logged by: Jack	L FRICSHER	Project No. 510200
7	Field	Locat	ion:				N	!	Drilled by: Roberts	Environmental Drilling	Date:
١			F				N N	<u> </u>	Drilling Method: Ge	oProbe	1407/02
			<u>.</u>	41					Sampling Method: 2	2" macrocore	Sheet
			_				-				of
			84151-	, -	,		,		Hole Diameter: 2"		
		6		(in.)	Ana	lysis/Test			Total Depth: 16	***	
ı	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID	Lab Sample Location & ID	<u>o</u>	USCS	Water At: 4	•	
	Dep		San	San Rec	(ppm)	Lab San Loc & 10	Time	Sy Sy			
	_						1010		Description: 10"	CONCRETE 12" R.	OCK BASE
ı			\				1010		SILTH GRAY	TO REDDISH BLOWN,	LOW PLASTICAT
-	2		 	24"				MI		LY MOIST, NO ODO	
	\dashv					}	-	1			
Ī			[/ \	•						SATURATED SILTY CL	
-	4		$\langle \rangle$		0		-		NO DOC	MODBERTE PLASTIC	ury SOFT
			\ /					CI	70 Stoc		
ıl	\downarrow		\2/		0	B4151-6	1020				
t	6		X	36		DIIST- @	1020				
ŀ											
	8		/		0				AS ABOVE		
			\								
ŀ			$\left \begin{array}{c} 3 \end{array} \right $								
-	10			38"	D						
	-		$ \ / \setminus $	38					SILT DARK GO	PAY BROWN, LOW PLA	ASTICITY.
T			/ \					MI	FIRM, Thore	1310000, ORG. MIL	DEBRIS
+	12		$\langle \rangle$		0				(wood FRAZIN	news, snews)	
			$ \setminus / $						SILTY CLAY	DARK GRAY, H	164 RASTICIT
	14		\4/	_					NURY SOFT, S	FATTAN NO O	DOR
f	1.4	ĺ	$ $	48"				C1			
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	16				0		1030				
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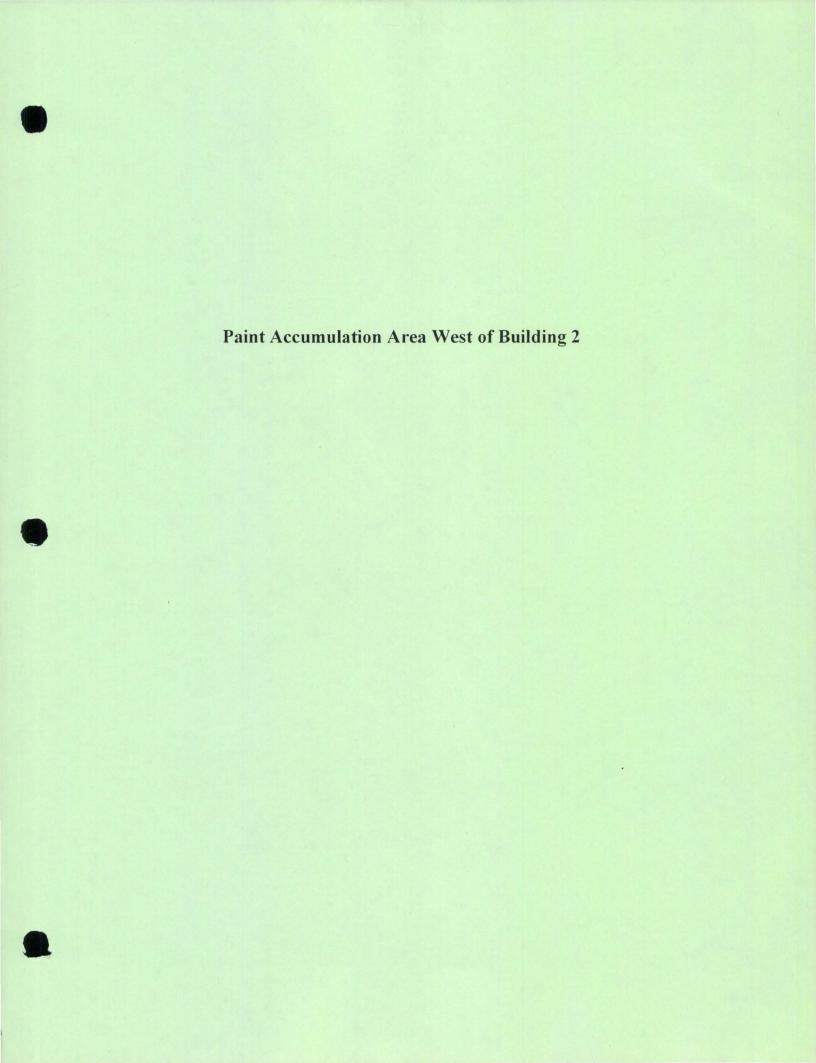
I	MAC	CTEC	L	_	Explora Boring	itory	,	Client: Boeing Logged by: JE	Location: Traਹt I South	Boring No. B4152 Project No.
		···						Logger J. J.E.	r·	510200
Field	d Loca	tion:			-,			Drilled by: Roberts	Environmental Drilling	Date:
			Bu	sc 41		\rightarrow \frac{\rightarrow}{2}	N N	Drilling Method: Ge	oProbe	11/7/02
,			L		ل			Sampling Method: 2	2" macrocore	Sheet
					®					of
								Hole Diameter: 2"		
			2	Ana	lysis/Test			Total Depth:	, '	
(£)	Graphic Log	ğ <u>ē</u>	ery (i	5.5	o e		SS		•	
Depth (ft.)	Graph	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USC	Water At:		
			-						Concrete 10" Grave	l hase
		\setminus					1			
, \dashv			33*	-				MED-LILLE	GRETISH TOAN CLAY	ey SILT
		'\					ML	LOW Flas	hic slight mourhance	, med frim
		/ \		ļ			1 1	Fe nottle	7	
4		<u> </u>	¥	0	34153-4	1140	ļļ			
ᅱ		\setminus					ML.	Similar to a	have. Less fe M	uffling at top
									ly more moustine	
6		2	38^	0			•••	mothly inco	eases while the So)!L
							CL	more cla		Saturated
8				2			-			
\neg								/6' E	11. 1 (.44)	
								10' Fe oxi	detron longer (4") brown block sil	t law-non
10		3	40"				-	plac	brown block sil	
		ا / دا	70							
., -				2			-	14 SATURA	ared Zone (~1")
12			•• •	-						
_		$ \setminus / $		•			-	15.5 MED G		-1
14.		u \vee	40"					plast	DET SILTY CLAY, IT IL, moderate moist cratchy soft.	WY
-		' /\					-	med	erately soft.	
16		/					+	16' BOH		
8							-			
							-			
							}-			
\neg	- 1	ł	ł				⊢			

	4 1	ИAC	TEC	L	_	Explora Boring	itory	,	Client: Boeing	Location: Tract I South	Boring No.
	2232	_	_		•	Joining			Logged by:	F	Project No. 510200
	Field	i Local	tion:	,				л. Ло		Environmental Drilling	Date:
				1	41		5	Ā	Drilling Method: Ge		
				<u></u>					Sampling Method: I	Dual Tube Sampler	Sheet 1 of 3
			Suri Gra	ALE TIS (SPEA	rator)	3.0			Hole Diameter: 2.12	25"	
						alysis/Test			Total Depth: 7	2'	ì
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
	å	ত	S o	S &	(ppiii)	S C S E	<u> </u> =) S		·	
			Λ	1		·	ļ		Description: 10"	concrete 6" Gravel 1	Mre
									1.5 - 2.5 Me	D. LIGHT GREYISH TAN	J
			, X	23"			1	my	CLAYON	1 SILT, LOW/NOW PLAST	ر,
				000	-	-	 	 		T MOSTURE, MED A	<u> </u>
			// \						2.5-8 MLD GE	ET GROWING GREY S	
	'' 				104	B41530-4	1320	a		LITE MOD MOISTURE	
			\setminus							Site of the state	7.11
			2	38 "	16				J" 0x141-	zed zom at 7.25-7	.5'
]	8-11.5 DARK	BROWN SILT, NOWAU	STIC.
1			/ \		8		ļ	}	WRD	SOFT, MODERATE MAIS	TURL.
ľ	8			• • • • •]		CLAY CLOSE TO BOTTOM	
-			$ \setminus $								(- 1
1	-		$\left \begin{array}{c} \\ \\ \end{array} \right $		8			ML	•	HT TANUISH GREY SILTY Y, MUD PLASTIC, MED	
			3	48''					SATUE	eated between 12' 4	
ŀ			/ \					1 1	Septic	ODOR AT BUTTOM	
).	12				4					CHANGE TO MED	RIZDISH.
	\dashv		\					1 }	TAU	MED FIRM TO FIRM.	
Ī			$ \setminus / $								
ŀ			4 X	48"	0			اند	<u> </u>		
		,	$\lceil / \setminus \rceil$								
	, -		/ \		15						
t	16										
-			$ \setminus $								
	18		$ $ $ $	48"	248						
	_			70		RILICAN M	n/.	-			
			/ \		647	B4153D-11	OIYI				
			<u>/</u> \	<u> </u>	18						

#]	MAC	TEC	L		Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. 841 \$
Field	d Local	tion:				=	A A		Environmental Drilling	510200 Date:
						·		Sampling Method: I	Dual Tube Sampler	Sheet 2 of 3
								Hole Diameter: 2.12	25"	
	ρο		(in.)	Anal	lysis/Test			Total Depth:		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS	Water At:		
		/						Description:	Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine Marine	
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24				16						
		$ \setminus / $								
		7 🗙	48"	.9						
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-		$\setminus \ /$					}			
				0				- A.		
一		5	48"				}	<u> </u>		
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2		$\langle \rangle$	-	1			-			
		\ /								
-		$\sqrt{}$	48"				-			
		9	10	2			-			
		/ \	-				L			
56	K	$\left\langle -\right\rangle$	-	12			-			
\dashv		\ /					F			
		\bigvee		22						
			-							
, -		/ \	F	9			F			

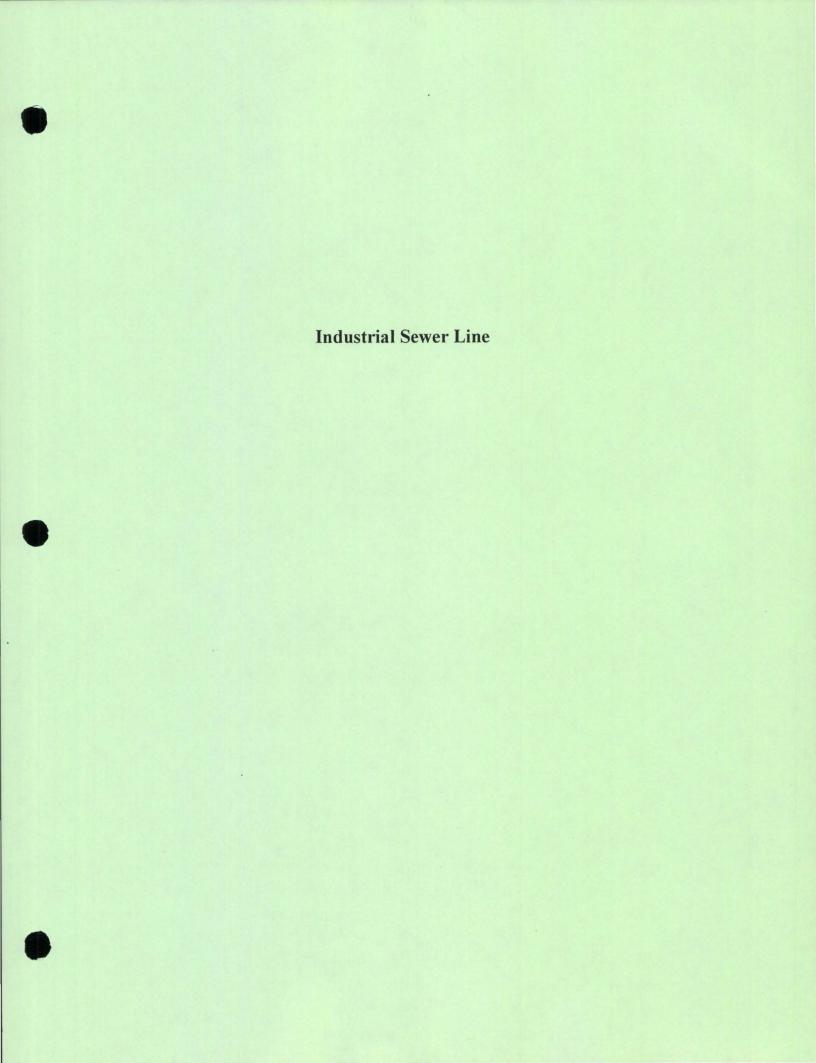
	Ø N	/IAC	TEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. B4IS3 D
									Logged by: ズビ	F	Project No. 510200
,	Field	Locat	ion:						Drilled by: Roberts I	Environmental Drilling	Date:
							A A	7	Drilling Method: Ge	oProbe	11/8/02
									Sampling Method: [Dual Tube Sampler	Sheet 3 of 3
									Hole Diameter: 2.12	25"	1
		5.		Ĕ.	Anai	ysis/Test			Total Depth: 70	o'	
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	Water At:		
	٥	<u> </u>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	S &	(PP)	 	F	J (S			
	-								Description:		
l			$ \ \ \ \ \ $		20						
}			/ \								
ŀ	14		$\langle \rangle$		7					11-8-02	
								}	44'	F →	
	-		\bigvee					-		·	
			Λ					-		8 SAMPLE TUBE IN H	
-		1	/ \					E		PULL CACING, MOVE	
-		k	$\langle \rangle$					}	~ 2 ft	AND PUSH DOWN	TO REPUSAL
		-	\ /						NO SAM	PLES PAST 44"	· (BUND
	\exists	1	\vee					+	PUSH		
	7		Λ						Power	6- 5-¢	
r			$/ \mid \mid$					<u></u>	PIFUSAL		
ŀ		K						,	A'A	the dazked Thu Re H & Driving mod	
-			\ /					4	DIFFICE	LT (PROBABLY DUE	To
			\bigvee					-	CW31NG	tompaction of Dept	H
	\dashv		/					-	- 70.		
	\exists],	/ \								
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L			\bigvee					Ė			
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	7		/ \	-				-			

	VIAC	CTEC	L	_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No.
<u> </u>								Logged by:		Project No. 510200
Field	Loca	tion:						Drilled by: Roberts	Environmental Drilling	Date:
						- B	-	Drilling Method: Ge	eoProbe	11/13/02
								Sampling Method:	2" macrocore	Sheet
										of
				·				Hole Diameter: 2"		
	5		(j.	Ana	lysis/Test			Total Depth: /(,	
Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple	l o	SCS	Water At:		
Dept	Grap	Sampler	Sam	(ppm)	Lab Sample Location & ID	Time	Sym	Water At:		
		/	1					Description: Begin	~0850	
						-		0:1.5 Asah	alt, concrete, grand	Peza
		I. X						7 1. 2 Uzhv	and removed & Alanes	
\dashv	•		32"					1.5-10 ME	D LIGHT GREY'SHTAD	
		// \						Sıcı	E, mas firm at Top	To MED
				0				<u>50</u> 5	or BELDU, Lowfred I	
二		\						or	+ bottom. Fe mort	
		$ \setminus / $	2.5	0	B4154-6			w	1 depth	
		2	32		1131 7					
\dashv		$ \ /\ \ $		 			}			
				۵				10-10.5 Ye	ry exidized zone - Fe	oxidation
4		\ /					}		in chayen silt.	
		3 X	28"	0			}	10.5-12 ME	S GREWISH GRET OR	EX 21-7 2.
								<u>V</u>	now plastic, med from,	mod law
$\sqrt{}$	j	/ \		0						1 -1
2			ŀ				}	12-13.5 <u>Dag</u>	EX BROWN SILT, MON Soft, med law marst	6100.pc
_		\setminus /					F	Org	junic mother	
4	İ	\bigvee		0			}	15.5-16. Mr.	N GOTH CLAY SUTY	CULY.
		4/\	24"						THER PARTY CAL	
		/ \	}			\dashv	}		MOD HIGH MOSTURE.	
6			ļ	8				16 BOH		
4			-				-			a wear
							T1			20 ~0905
B	-		}							
-			ŀ							



	MAC	TEC	L	_	Explora Boring	tory	. '.	Client: Boeing	Location: Tract I South	Boring No. BZII
5524								Logged by: コ. Fi	RIESUER	Project No. 510200
Field	d Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
1	BLO	4	17	4		\delta \delta	2	Drilling Method: Ge	oProbe	11/8/02
	4	•	B2W1	1	BUG 2			Sampling Method: 2	2" macrocore	Sheet
				8	HASTE POINT /SI					of
		B 2	11 /		AREA	ProENT		Hole Diameter: 2"		
	бo		(j.)	Anal	lysis/Test]		Total Depth: (6		
Depth (ft.)	Graphic Log	pler	Sample Recovery (in.)	PID	ple	0	CS	Water At:	•	
Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
			1				1	Description: C C	overele	
		$ \setminus /$						6" g	ravel base	
2	1	$\bigcup_{i \in I} \bigcup_{j \in I} (i)$							LIGHT GREYISH TA	
		//\	24"			<u> </u>			Y CLAY, LOW PLAST HT MOISTURE, ME	
		/ \							Momune, Me	
4		\		5				4.5-6 ML	D CROST GERROUSH CH	R.ET
	·	\ /						Sic	TY CLAY, LOW PLAS	nc,
6			- 0	188					MOTILLIC , MED	tra
		z 👗	30°						- HOUSE	
 	1						'		D Light grayish ton s	
8		/		287	B2[1-8	1425	•		ghtly none mettler)	
-	ĺ						}	9-13.5 DAR	IL BROWN SILT, NON!	PLACTIC
	1								Soft - med from 1	diam to
10	Į.	3 X	30"	3			}		Denote mersture, Organi	.c matter (week
12		/ \		3			}	13.5 -16 ME	D GRET GREENISH G	plastic .
									LTY CLAY, mediante	moisture
		\ /					}		mottling	
14		\mathcal{N}	32'	2						
-		4/\	12				}			
		/ \								
16	F		}	17			-			
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18			}				}			
			ļ							
			}				}			
20			}		-					

≥ N	MAC	TEC	L	-	Explora Boring	tory	,	Client: Boeing	Location: Tract I South	Boring No. B2W1 Project No.
<u> </u>								J.	FRIESNER	510200
Field	Loca	tion:	1		1		1.	Drilled by: Roberts	Environmental Drilling	Date:
}	В	20			4 ,	A D	A A	Drilling Method: Ge	oProbe	11/8/02
		41	J 8211		T Bu	3 G		Sampling Method: 2	2" macrocore	Sheet
				√ ⊗	1)	la				l of l
						rokaris Puntis	HUT.	Hole Diameter: 2"		
	Ď		Ĵ.	Anal	ysis/Test			Total Depth:	<u> </u>	
(g)	Graphic Log	ion	le (i	DID	ion ion		S o		•	
Depth (ft.)	Graph	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS			
	· <u></u>		 				 		ncrete	
		$\backslash \backslash$							gravel base	
2		I.V		3			-	1.5-11.0	MED LIGHT TAN-GELETA	SH
		$ '\rangle$	30"					GRE	ET SILTYCLAY, L	ow
									STIC, MED-LOW MOIS LED. FIRM. FE MOT-	
4		<u> </u>		3			me/		aroughout (variablei)	1115
1 -								Slight ada	r et 5.6'	
				7/2		. •				
6		2 🚶	38"	166	B2W1-6	1000	}	160 - 16 N	ARK REDUU SILT No	nolastic
		$ / \setminus $							ARK BROWN SILT, no I Low Moisture, med	Firm
8		/		7				SATU	rated zone (1-2")	at
									14.5 ft	
		\setminus / \mid						Organ	c matter (west)	
10		3 X	38°	3			}			
		ا \ / د								
12		/ \		4			}		•	
							ML			
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18							-			——
15			ļ							
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20								 		



;	≥ N	ЛАС	TEC	L	_	Explora Boring	ıtory	,	Client: Boeing	Location: Tract I South	Boring No. B2N1
		<u>.</u>		<u> </u>			·		Logged by:	ick Friezher	Project No. 510200
•	Field	Locat	tion:	_	·			-	1	Environmental Drilling	Date:
		For		7		5		A	Drilling Method: Ge	oProbe	11/11/02
i			Bu	41		لم			Sampling Method:	2" macrocore	Sheet
				1	•	1					1 of
									Hole Diameter: 2"		
		D)		.ë	Ana	lysis/Test			Total Depth: /6	,	
	(ff.)	Graphic Log	ion	very (PID	se ion		S S	Water At:	•	,
	Depth (ft.)	Grapt	Sampler	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	USCS			
	+			1					Description:		
			\ /				-	-	0-25' A	sphalt a gravel base	
	2		$ \cdot \rangle$	3.19				1	2.5-6 M	CO LIGHT GREENISH G	REY CLAYEY
	4		ľ /\	34"						SILT, MED SDET, LOW +	
			/ \							towards potter	1971(40
ŀ	4		$\langle \rangle$		0	·			6-9' MO	CLEHT GREYUH TAU SI	
										D SOPT, LOW to YOU DUN!	TIC SUGHT
	6		2		0					moderage moistures.	& Fe molthing
Ī	*			36"							
ł									Ver	soft zone at 6.5' (1-3" 20m)
-	8		<u>/}</u>		X O				0.115		
			\ /							BROWN SILT, was plast	,
	\Box				YET (A)				Maist	me of depth, mess from	m soft
ł	10		3 🚶	೩୯") A					cheet betten.	
\downarrow											
L	12				0			Ì		BROWN SILL ABOUC	
	-	ſ	\ /					}	<u>w/ 9</u> ,	penish grey(dark) silt	n clan,
			\setminus / \mid	ļ					Moles	,	1 meserae
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	16		/ \		0			}	16 BOH		
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	MA	CTEC		_	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. B2.N2
					ornig			Logged by: J. F	LIUSVER_	Project No. 510200
Fie	ld Loc	ation:						Drilled by: Roberts	Environmental Drilling	Date:
						\dagger \frac{\dagger}{\dagger}	-	Drilling Method: Ge	oProbe	11/12/02
Ì								Sampling Method:	2" macrocore	Sheet
}										(of (
İ								Hole Diameter: 2"		
	- Bo		ĵn.)	Ana	lysis/Test			Total Depth:	Ç	
Depth (#)	Graphic Log	pler	Sample Recovery (in.)	PID	ple	0	CS	Water At:		
Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS			
			/					Description:	· · · · · · · · · · · · · · · · · · ·	
 	-			\			1	0- 3 .5 A	uphalt 4 gravel base	
2	1								Yellow-grey/olive-cdo	
-	1	1'/\	20			 		511	a cluy, mellow plastic.	molerately law
		/ \								7.5.117
4]		 	0	· · · · · · · · · · · · · · · · · · ·			4-13 MED	LIGHT GREYSH TAN S	AYEY SICT
]	1							Inon slastic, moveral	me moistone m
6				0					ft. Fo mittin incre	asing w
			28					12 47 5	lepth.	
							ŀ	<u> </u>	DARK BROWN CHAYEN	ر ۱۸۰
8		 	}	0			}		low moisture, mail for	
		1\ /					-		Jane matter (wood)	
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18							-			
20							}			

	<i>#</i> 1	MAC	TFC	L	_	Explora	tory	-	Client: Boeing	Location: Tract I South	Boring No.
		VIAC	ILC		E	Boring			Logged by: J.	Friesnar	Project No. 510200
	Field	d Locat	ion: —			€ 24	<u>.</u>	j .	Drilled by: Roberts	Environmental Drilling	Date:
			4			n 4-270	7 4		Drilling Method: Ge	oProbe	11/12/02
				82	-		1		Sampling Method: 2	2" macrocore	Sheet
				·							of
									Hole Diameter: 2"		
		Бo		<u> </u>	Anai	ysis/Test			Total Depth: /6)	
	Depth (ft.)	Graphic Log	pler tion	Sample Recovery (in.)	PID	ple	0	CS	Water At:		
	Dept	Grap	Sampler Location	Sam	(ppm)	Lab Sample Location & ID	Time	USCS Symbol			
Ī									Description:		
-									0-2.5' Asp	half a gravel base	
-	2		1 X	3c"						-	
	_			علا					2.5-4.5	BLACK CLAY, MEDHICAL LOW MOISTURE, FIRI	
	\Box				0				4.5-7 Medi	· · · · · · · · · · · · · · · · · · ·	
f	•							<u></u>		um yellow-grey folive Isothy clay, medium plas	hic, mad low
+	-		\setminus					}	wo.	store, med from Fe	mothling
L			2 V	42	0			}		150 LIGHT GREYSH TA	
ļ	\dashv	_						}		yen silt, lon plastic, m	
T			/ \								
1		K	$\langle - \rangle$		O			-	15.5-16	RIC BROWN SILT PLAYED	
-			\setminus / \mid				3	-		med soft.	
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	MAC	CTEC	L	_	Explora Boring	itory	,	Client: Boeing	Location: Tract I South	Boring No. B2N4 Project No.
					·			Logged by: J. f	RIESVEL	510200
Field	d Loca	tion:						Drilled by: Roberts	Environmental Drilling	Date:
						A	D W	Drilling Method: Ge	eoProbe	11/13/12
								Sampling Method:	2" macrocore	Sheet
] of
			,		·			Hole Diameter: 2"		
	bo.		(jr.)	Ana	lysis/Test			Total Depth: (6)	···
Depth (ft.)	3raphic Log	pler	Sample Recovery (in.)	PID	ple		USCS	Water At:		·····
Dep	Grap	Sampler	Sam Rec	(ppm)	Lab Sample Location & ID	Time	Syn	ľ		
		/						Description:	3can 6 081)	
				 		-		0-2' Asisho	14 (c"approx) and gra	el basi
2			24							
		//	~7					2-3 Blace	cons wy ander C	rished
				U						
4									FIRM CLAY	AK
		$ \setminus / $								
6			40	0	B2N46	0830		4-5.5 MED	IUM GREY EIL TAN O	AVŒ.
\dashv		2/\	, 0					COLORT	DED PLASTIC, LOW M	, web
								· ·	THEB THEFT, LOW W	9307000
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		$ \setminus / $							LOW PLASTIC ME	SOPT
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20		}	}				 			

	# 1	ЛАС	TEC	L	_	Explora Boring	tory	, , , , , , , , , , , , , , , , , , ,	Client: Boeing	Location: Tract South	Boring No.
		· · · · · · · · · · · · · · · · · · ·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			oomig			Logged by:	Fliesure	Project No. 510200
'	Field	Loca	tion:				4	2	Drilled by: Roberts Drilling Method: G	Environmental Drilling	Date:
							7		Sampling Method:		Sheet
									Hole Diameter: 2"		(of I
İ				<u> </u>	Ana	lysis/Test			Total Depth: /6		<u> </u>
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol			
			/ /	or the				0,	Description:	halt a grand base	
	2		$ / \rangle$	36"					<u> </u>	PER WAY/CHAPER MIX	
F				30					ch-c	BLIGHT GREY GREEN'S MEY SICT, MARIACTICS,	LOW MOISTHER,
ŀ					2					EN FIRM, FE MOTTEL	
}	ᅥ		$ \setminus / $					<u> </u>	•	LY LICHT GRETISH TO AYET SILT LOW PLAST	
1	3		2 /	32"				-	<u>m</u>	oistires is mon nois	st zones,
			$ / \setminus $		2	8245-7	1535	· }		E MOTTUAC	
	, -		$/ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$		5			-			
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ŀ			3	ગ્ર 4''	7			- -	155-16 Me	n carrist Rown Signed Soft, low-modera	I, nonabestic
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1	4			24"	67			}			
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elle v	1 A C		l	_og of	Explora	tory	,	Client: Boeing	Location: Tract I South	Boring No.
211	VIAC	TEC		E	Boring			Logged by: 7	FRIESUCR	Project No. 510200
Field	l Locat	ion:	441	BANSHE	15 PD	=	<u> </u>		Environmental Drilling	Date: 11/8/02
			j	1	(c) (c)	= ~ 841	r	Sampling Method: 2		Sheet
				May to	ME PROPER			Hole Diameter: 2"		' '
7	Log		y (in.)	Anal	ysis/Test			Total Depth: 16	•	
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	Water At:		
一		/						Description:	الماليا مسالمون	
2			26" 42"	2 0 72 30				2-5 DARK PLAS 5-15 MUD MIC VORT WO	Beamy to BLACK CLATIC, FIRM, LOW MOIS FOREY OFFICH GREY COLUM FOR SOFT MED F MOISTRATE MOISTWAF C+ at B'-10' UM DARK DROWN SIE MYPLASTIC, MED FIRM WYOISTUMB, ORONN	SILTY CLAY PLASTICS, IRM For mottly
4			20"	Φ Ο				No Bort		

UST Area Between Building 4 and 5

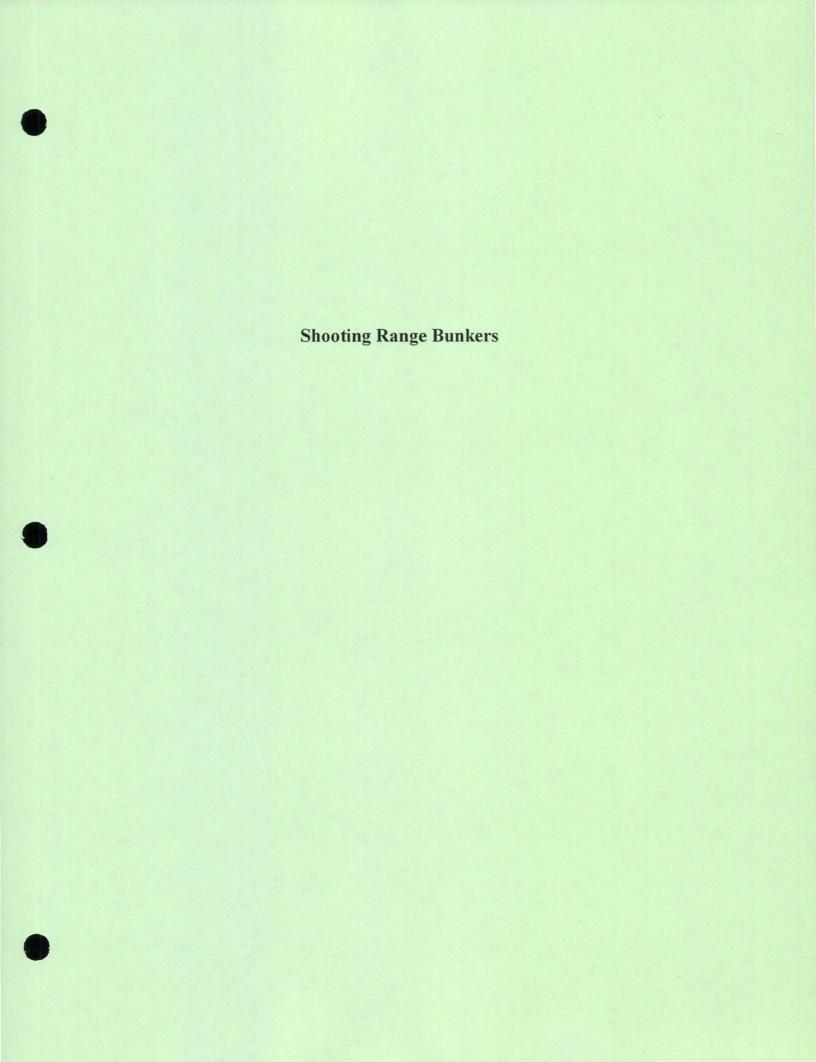
	ΛΔC	TEC	L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No.
1V	IAC	ILC		E	Boring			Logged by: ゴ.	FRIESNER	Project No. 510200
Field	Locat	ion:	. 134	١	S/ 5-3 -			Drilled by: Roberts	Environmental Drilling	Date:
		BLDG		8	SLOPE.	#	N N	Drilling Method: Ge	oProbe	11/21/02
:		4		6	_	,		Sampling Method: 2	2" macrocore	Sheet
				•						l of l
			••	• • . —•				Hole Diameter: 2"		
	53		<u> </u>	Ana	lysis/Test			Total Depth: 20	o'	<u></u>
E	Graphic Log	声	le 'ery (i	0.0	<u>a</u> 6	1	Sol		, , , , , , , , , , , , , , , , , , ,	
Depth (ft.)	Graph	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USC	Water At:		
		/						Description:		
		$ \setminus $								
2			,,,						nalt a gravel base	
	:	' /\	24					1.5-70' Gen	VEL , KRAVELLY CLAY,	cuv
								FILE	- Low moisture	
4		$\langle \rangle$		٥					FILTY CLAY CLAYBY SIL	r, Low Plast
									•	
6				0			-		m Yellow greyish Tai	
-		2	3 ¢						FIRM. FE MOTTUNG	
							-	10.5-13 MED	LIGHT GREYEN THU CL	עמ אנז.
8				0			-	LOW	PLASTIC, MOD LOW NO!	
		\ /					t	~	U SOFT. FE MOTTLING	
							-	13-16 MED LIN		
10		3 🚶	36						LOW PLASTIC, MOD MOD	
		/\					-	NE	SOFT. PHIRE OPOR	
12				3			-			
-	ſ	\ /					+	16-20 CHAN	OF BACK TO MED LIGHT	MER
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14		4 X	30	22	BHE1-14	0845	}			
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	ИAC	TEC	L	-	Explora Boring	tory		Client: Boeing	Location: Tract I South	Boring No. B4E2D
				t. .				Logged by:	BRINKLEY / J. FRIESUER	Project No. 510200
Field	Locat	tion:						}	Environmental Drilling	Date:
						퓍	N.	Drilling Method: Ge	oProbe	11/22/02
								Sampling Method:	Dual Tube Sampler	Sheet
										1 of 4
								Hole Diameter: 2.12		
	D.		ii.)	Ana	lysis/Test			Total Depth: 79	`. 3 '	
(F)	Graphic Log	Ser	ole very (PID	ole lion] _	CS	Water At:		
Depth (ft.)	Grap	Sampler Location	Sample Recovery (in.)	(ppm)	Lab Sample Location & ID	Time	US	Water At:		
						Sic		Description:	ASSHALT	
		\								
		V						No BECove	m + 12'	
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		X	6"	0	B5W20-13					
			G.				-	12-15 Ma	MEHT ATTUS	4311811
12						8.5		GR	LY CLAPEY SICT L	a.
-		\					-	PL PL	DFIRM. Fe Mast	URK.
コ		4/							.D.FILEN. VE MA	
		XI					-			
							-		MED GREYISH TAN-	
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2/17	ЛΔС	CTEC	L	_	Explora	itory		Client: Boeing	Location: Tract I South	Boring No.
	VIAC.			E	Boring			Logged by:		Project No. 510200
Field	d Loca	tion:						Drilled by: Roberts	Environmental Drilling	Date:
						#	D.	Drilling Method: Ge	oProbe	11/22/02
į								Sampling Method: I	Dual Tube Sampler	Sheet
							;			2 of 4
								Hole Diameter: 2.12	25"	
	. Go		(j.)	Anal	ysis/Test			Total Depth:		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID	ple	0	USCS Symbol	Water At:		·
Dept	Grap	Sam	Sam Rec	(ppm)	Lab Sample Location & ID	Time	Syn			
		\ /						Description:		
		\\(\						20.5-31.5	MED GREY GE	HEILES
	1	X							GRLY SILTY CL	P-4
		$ / \setminus $							MED PLASTIK, LOW VARIAGING FR MOT	r_ED
24		/ \		0				25-2	7 SHOHTY LUSSS (:Dimb1
137			•						AND MARE SI	
\vdash		$\left \left \right _{i} \right $					-			
							 	31.5 - 34.5		
		$ / \rangle $					-		CLAYEN SILT, LOW MOISTUR	, ,
7.5		/ \				(2.34			SOFT INTERMIXED	اسم
38				0		े उर	ŀ		MED GEEENISM	SEET
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# N	ΛΔΟ	TEC	L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B4E 2D
T'	VIAC			E	Boring			Logged by:		Project No. 510200
Field	l Locat	ion:						Drilled by: Roberts	Environmental Drilling	Date:
						4	A A	Drilling Method: Ge	oProbe	11/22/02
								Sampling Method: I	Dual Tube Sampler	Sheet
									·	3 of 4
						-		Hole Diameter: 2.12	25"	
	Ďo,		E)	Ana	lysis/Test			Total Depth:		
Depth (ft.)	Graphic Log	Sampler	Sample Recovery (in.)	PID	Lab Sample Location & ID	e e	USCS	Water At:		
Dep	Gray	Sam	Sam	(ppm)	Lab Sarr Locs	Time	S v.			
								Description:		
		\"						43-68	MED DARK GREY	HZIUUAT
		X							GREY CLAY, P	ICH
-		$ \ / \ $	λ	ास					PLASTIC, MODEL	SATE MOIST
44		$\langle \rangle$	SK	PPFC	44					3-52
		\ /	N.	عدره	BUDG	<u>ي</u>				
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	MACTEC			L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B4E2D
		1110				Boring			Logged by:	Project No. 510200	
F	ield	Locat	ion:						Drilled by: Roberts	Date:	
							d	7	Drilling Method: Ge	oProbe	11/22/02
									Sampling Method: I	Dual Tube Sampler	Sheet
											14 of 4
\vdash		_ Analysis/Test							Hole Diameter: 2.12		
	2	Log		y (in.)	Allei	- 	-			1.3	
	Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS	Water At:		
\vdash			\ /	O E				0)	Description:		
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	\dashv					· · · · · · · · · · · · · · · · · · ·				MED CRAY CLAY	
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						}-			SAMPLOT		
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6	3	k			0		1115			R. TRUDING 146	No 36 6.2
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	\exists		\\\\						70-72 G	PAVEL IN CLAY	nl Same
			X					-	weat	hered growels	
	_							-			
7;				i			1140		72-96 CHA	ace to med light	TAN
	\dashv		\					}-	ممع	, HIM PLASTIC, LOW	MOISTING
		<u>.</u>	19/					}	V.F.	en.	
	-		X	36"				-			
]			الا						CRAFE BRACING	
7.	<u>, </u>		/ \		0		1305	-	PLA MINE	Sumfren (profit)	Pa.2
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			\ /				145 1	-	74-76-7	9.3 weathered no	k mised
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40	4		/ \						BEDROCK AT	71.31	



MACTEC			L		Explora	tory	,	Client: Boeing	Location: Tract I South	Boring No.		
1	WINGILO			E	Boring			Logged by: J. RIESNER		Project No. 510200		
Field	Field Location:						A.	Drilled by: Roberts Environmental Drilling Drilling Method: GeoProbe Drilling Method: GeoProbe				
						'		Sampling Method: 2	2" macrocore	Sheet		
]										of)		
								Hole Diameter: 2"				
	Analysis/Test						Total Depth:	Σ ο΄				
Depth (ft.)	Graphic Log	Sampler Location	Sample Recovery (in.)	PID (ppm)	Lab Sample Location & ID	Time	USCS Symbol	Water At:				
	,,	/	 -					Description:				
	- /			ļ				0-1 Brown				
2	į	$, \bigvee $							V SILT-PLAS LOAM			
-		$ \ / \ $	3c					1-3 Brown CRANELLY CLMY And Grevel				
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4		$\langle \rangle$										
				DED DINE I			}	3-4.5' ME	LIGHT REGRETISH	Braw		
						1457	}	clayer sill low plastic, fra, low mas				
6		2 \	40		BRB351-C	11.36						
							}	4.5- \$ 55 N				
8									sel gray lyreenish grav	low no ister		
\dashv		\					-		ned firm. Slight fe	notthing		
	j	\setminus / \mid	i					5.5-11 DAR	& BRALL SILTYCLA	(CLAY,		
10		3 X	کن				-	High	pastic mad low in			
		/\	į					Med	firm to mad saft			
		/ \	Broken unce				[
12	K						}	11-16 Brain	To med grey greenish above. Slightly m	eren clayer		
		\setminus / \mid	[-					
14		\	24				}					
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							}	16-20 No Re	· cox·m			
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		/	13.71L									
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MACTEC		Exploration Explor	tory		Client: Boeing Location: Tract I South Boring No. B13 E 2 Logged by: Friedland Froject No. 510200		
Field Location:) Ro.	€ (2	T	TCHTMON.	Drilled by: Roberts Drilling Method: Ge	510200 Date:	
					Hole Diameter: 2"		of
Depth (ft.) Graphic Log Sampler Location	Sample Recovery (in.) (mdd) OId	Lab Sample resident Location & ID	Time	USCS Symbol	Total Depth: (('		
2		BISEZ-L	1520		1-25 B 3.7-35 M SIL MO 35-5 ME 5-6 SLG FIR 5-6 SLG 18-11.5 MED D 11.5-13 MED D 11.5-13 MED D 11.5-13 MED D 11.5-13 MED D	Brown SILT-CLAY LOAM FOR GRANDLY CLAY FOR CREY GREEVISH FT CLAY, MEDIUM PLASS DIGHT GREYISH THE TO LIGHT GREYISH THE TO LIGHT GREYISH THE TO LIGHT GREYISH THE TO LIGHT GREYISH THE TO LIGHT GREYISH THE TO LIGHT GREYISH BREEVISH TO CLA THORE GREYISH BREEVISH GREY GREEN FAI GREY TON PLASTIC, MOD JON THE COLL TO MED SOFT THE COLL TO MED S	d GRAVEL GREY TIC. COM TIC. COM TON, V. F.RM V. CLATET MON LOW TY CLAT TO CLATE THON LOW TY CLAT THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THON STORY THE CLATE THE CLATE THON STORY THE CLATE THE

	MACTEC			L	_	Explora	tory		Client: Boeing	Location: Tract I South	Boring No. B1363	
						Boring			Logged by:	Project No. 510200		
'	Field	Locati	ion:				·		Drilled by: Roberts	Date:		
-							P	A A	Drilling Method: Ge	Drilling Method: GeoProbe		
									Sampling Method:	2" macrocore	Sheet	
											of	
									Hole Diameter: 2"			
j	Ďo:			(in.)	Analysis/Test				Total Depth: 16		·	
	Depth (ft.)	Sraphic Log	Sampler	Sample Recovery (in.)	PID	Lab Sample Location & ID	و	USCS	Water At:	······································		
	Dep	Gra	Sar	San Rec	(ppm)	Sar Sar Loc	Time	Sy				
	-		\setminus						Description:		·	
1									0-1.5 Beau	WSILF-CLAY LCA	m	
ł	2		, X	24"					1.5-4.5 B	ROUN ERAVOUS (LRY	
ł									`4	ENTER CRIMEL		
	4		}									
1	_ +	ĺ	\ /	}					4.5-6.5	MEDGERY GREYNISH LAYLY SILT, LOW PLA		
	5]		421'		B13E3-4	1945	-		LOW MOISTURE, MUD.		
ľ		ł	2	77		+ Durchare	1313) -				
\mathbf{f}		1	/ \	ŀ				}	6.5-9,5 DAG	ek Brown chater sic	rsture.	
ŀ		K						F		LED SOFF		
			\ /	-				-				
	10		3	36"				}		n daek Greykh Be 14 Clay, Med Plas		
T		}	$\backslash \backslash$	36				-		~ MOISTURE, MED F		
F			/ \					}	10.5-12.5 M	en greylireenish (-12 E	
ŀ	12	K		}				-	<u> </u>	ed moisture, medicon	PLASTIC	
-	\neg		\ /					F		oft. Fe mortent		
Ŀ	4	1	\bigvee	34"				þ				
	\dashv		Λ	-				-	12.5-16 Che	inje to med light gr	more	
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1	6	ľ							IL BOH			
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	8			-								
				-				+				
	0							F				

Appendix B

Groundwater Sampling Field Record Forms

SWMU No. 17

MACTEC

TEMPORARY PIEZOMETER GROUNDWATER SAMPLING DATA SHEET

	PROJEC	T#510200	PROJECT NAME:	Boeing Tract	1 South	BORING	# <u>B48I1</u>
SAMPLED B	Y:	DLB	WEATHER:	SUNNY !	MID 46°		
_19	Time	Date /////62	INITIAL WATER		7.4 16		ground surface
			FREE PRODUCT				ground surface
			SUBSEQUENT W				ground surface
		garaghagana (Maganana garana ay an agana	SUBSEQUENT W.				ground surface
CAMPING A	4FTHOD.	Disposa Di			······································		givano suriavo
SAMPLING N	MEIROD:	DISPOSABL PERISTALT	E POLYETHYLENE IC PUMP	BAILER			
FRACTION (circle)	i	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D	CONTAINER TYPE
voc	-	1040	11/11/02	DOL	2 × 40 m		40 ml vial
TPH DRO	-	1040	11/11/02	मेख	40 m	/	1,000 ml amber bottle
PAH TOTAL MET	- 2 I A			none HNO3			1,000 ml amber bottle 500 ml plastic bottle
BTEX				нсі			40 ml vial
	-					 -	
	-	·					
BAILED DRY	: YES	□ мо⊠					
WATER QUA	LITY OBS	ERVATIONS: _	Very TI	VaB.D,	DARK BA	ROWN	
REMARKS:		mors ~1	14 GALLON	PRIDA	TO CAMP	LING	
SIGNATURE:		DeB		:	DATE: /////	/07	-

PROJEC	CT #510200	PROJECT NAME: Boeing Tract 1 South				#_B48I2
SAMPLED BY:	DLB	WEATHER:	SUNNY 14	1D 40°		
Time ///O	Date 11/11/62	INITIAL WATER L		4.5		ground surface
		FREE PRODUCT L				ground surface
		SUBSEQUENT WA	TER LEVEL:			ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below	ground surface
SAMPLING METHOD	DISPOSABL	E POLYETHYLENE I	BAILER			·
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D	CONTAINER TYPE
voc	1125	11/11/02	- Het	2 x 40 m	/	40 ml vial
TPH DRO	1125	11/11/02	FICE	40.n1		1,000 ml amber bottle
PAH			none			1,000 ml amber bottle
TOTAL METALS			HNO3			500 ml plastic bottle
втех			HCI			40 ml vial
BAILED DRY: YES	по х					
WATER QUALITY OB	SERVATIONS:	TURBID	DARK	CRAY		
REMARKS:) 10 1057 R	AIL DONN	INUC 11,	2320180	1/2 GA	TLON PRIOR
SIGNATURE:	De	R		DATE: <u> </u>	10 i	- -

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PROJE	CT # 510200	PROJECT NAME	: Boeing Tract	1 South	BORING # B4BU 1
SAMPLED BY:	JET DUZ	WEATHER	: PTE Cloudy	cool polo	
Time 1340	Date 11 11 02	INITIAL WATER		7.4	feet below ground surface
		FREE PRODUCT	LEVEL:		feet below ground surface
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface
SAMPLING METHOD	o: 🗹 disposabl	E POLYETHYLENI IC PUMP	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE
TPH DRO PAH TOTAL METALS BTEX	<u> 1505</u> <u> 1505</u>	11/11/02	Helmon Helmon none HNO3 HC1	40 ml	40 ml vial 40 ml vial 1,000 ml amber bottle 1,000 ml plastic bottle 40 ml vial
BAILED DRY: YES		Slightly tor	bid, light	- tan volor.	
REMARKS:	<u> </u>				
SIGNATURE:	Ja Est	· · · · · · · · · · · · · · · · · · ·		DATE: 1110	2

UST Site #3

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PROJECT #510200	PROJECT NAME: Boeing Trac	t 1 South B	ORING#B45CSID			
SAMPLED BY:	WEATHER: WESTAST,	cool(cold)				
			0505			
Time Date						
0723 11 150	2 INITIAL WATER LEVEL:	<u>58.1</u> fe	eet below ground surface			
1/14/0.	L TOTAL WELL DEPTH:		eet below ground surface			
	FREE PRODUCT LEVEL:	fe	eet below ground surface			
	SUBSEQUENT WATER LEVEL:	fe	eet below ground surface			
	SUBSEQUENT WATER LEVEL:	fe	eet below ground surface			
SAMPLING METHOD: 🕱 DISPO	SABLE POLYETHYLENE BAILER					
☐ PERIST	CALTIC PUMP					
FRACTION (circle) SAMPLE TII	ME DATE PRES.	VOLUME COLLECTED	CONTAINER TYPE			
voc	HCI	•	40 ml vial			
TPH DRO D805	30 1805 11 1K 02 BX VOIN	3 40 m	1,000 ml amber bottle			
РАН	0 none		1,000 ml amber bottle			
TOTAL METALS	HNO3		500 ml plastic bottle			
BTEX <u>0805</u>	300 11/15 02 BCI NOW	40ml	40 ml vial			
						
						
BAILED DRY: YES NO						
WATER QUALITY OBSERVATIONS: WATER TURBID NED DARK GRENCH BROWN						
REMARKS: BAILED NO.5 gal (sty) prov to sampuax						
MATERIAL .	2 dry (strol) byten 10 2 dry	PLICO				
SIGNATURE:). 	DATE: 11 15 07	<u> </u>			

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PROJE	CT #510200	PROJECT NAME:	Boeing Tract 1	South 1	BORING # B45CS 2
SAMPLED BY:	DLB (JEF	WEATHER:	Rain, con!		
Time (650	Date	INITIAL WATER	_		feet below ground surface
· · · · · · · · · · · · · · · · · · ·		TOTAL WELL DI	EPTH:	1	feet below ground surface
•		FREE PRODUCT	LEVEL:	1	eet below ground surface
**************************************		SUBSEQUENT W	ATER LEVEL: _		eet below ground surface
		SUBSEQUENT W	ATER LEVEL: _	f	eet below ground surface
SAMPLING METHOD	DISPOSABL	E POLYETHYLENE IC PUMP	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
VOC	1340		HCI		40 ml vial
TPH DRO	1710	11/14/02	Her vone_	YOAL	401,000 ml amber boute
PAH TOTAL METALS			none HNO3		1,000 ml amber bottle 500 ml plastic bottle
втех	1710	11/14/02	Hel hore _	40mL	40 ml vial
			_		
BAILED DRY: YES	ом 🗖				
WATER QUALITY OF	SERVATIONS:	VERY TORB	ID, DARK	BROWNISH (rey
REMARKS: ~	200 mL p	myed prior t	o sumpling		
SIGNATURE:	an Esti		I	DATE: LI 14 07	

Former Drum Storage Adjacent to Building 40

PROJ	ECT #510200	PROJECT NAME:	Boeing Tract	1 South	BORING # <u>B40E1</u>
SAMPLED BY:	DLB	WEATHER:_	SUNNY	65	
Time /355	Date 11/14/62	INITIAL WATER L TOTAL WELL DEF	тн:	5.9' 12	feet below ground surface feet below ground surface feet below ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below ground surface
SAMPLING METHO	DD: DISPOSABL	LE POLYETHYLENE I	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	D CONTAINER TYPE
voc	1410	11/14/62	HE	80 m	40 ml vial
PH DRO	1415	11/14/02	HCI		1,000 ml amber bottle
PAH TOTAL METALS			none HNO3		1,000 ml amber bottle 500 ml plastic bottle
BTEX			HCl		40 ml vial
BAILED DRY: Y	es 🗆 No 💆				
WATER QUALITY O	DBSERVATIONS:	TURDID, C	IGHT B	Rowa	
REMARKS:	BAILRO 4 BALL DOWN	& Canon P	RION TO	SAMPL.M	. DID NOT
SIGNATURE:	De R			DATE:	14/01

PROJEC	CT#510200	PROJECT NAME:	Boeing Tract 1	South	BORING# <u>B40E</u> Z
SAMPLED BY:	DeB	WEATHER:	SUNNY (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Time		INITIAL WATER TOTAL WELL DI FREE PRODUCT SUBSEQUENT W SUBSEQUENT W E POLYETHYLENE	EPTH: LEVEL: ATER LEVEL: ATER LEVEL:	. /6	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
FRACTION (circle)	☐ PERISTALT SAMPLE TIME	IC PUMP DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
TPH DRO PAH TOTAL METALS BTEX	1435 14 3 5	u /14/pr 11/14/or	none HNO3 HCI	80 m1	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle 500 ml plastic bottle 40 ml vial
BAILED DRY: YES		VERY N	olba Lii	HT/MERIVA	Blowd
REMARKS:	BALED	1/2 600 F	0 ~ 1'	R TO SAM	Purs. wen
SIGNATURE:	De B			DATE:	4/02

PROJEC	CT #510200	PROJECT NAME:	Boeing Tract 1	South	BORING # B4051
SAMPLED BY:	JOP PLE	WEATHER:	OVERAST		
Time	Date	INITIAL WATER		5.3	
[17]	1111-1195	INITIAL WATER	LEVEL:		feet below ground surface
	11/14/02	TOTAL WELL DE	зртн:	14'	feet below ground surface
		FREE PRODUCT	LEVEL:		feet below ground surface
		SUBSEQUENT WA	ATER LEVEL:		feet below ground surface
		SUBSEQUENT WA	ATER LEVEL:		feet below ground surface
SAMPLING METHOD:	: disposabli	E POLYETHYLENE IC PUMP	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
Voc	1510	11/14/02	HCI NOUC_	40 mc	40 ml vial
TPH DRO	_1570	11/14/02	HET ADOR -	40 mL	47,000 ml amber bottle
РАН			none _		1,000 ml amber bottle
TOTAL METALS			HNO3		500 ml plastic bottle
ВТЕХ			HCI _		40 ml vial
		***	-		
			-		
BAILED DRY: YES	□ ио □				
WATER QUALITY OBS	SERVATIONS:				
	_				
REMARKS:					
•					
SIGNATURE:	XI EL			DATE: 11/14/	02_

PROJEC	T#510200	PROJECT NAME:	Boeing Tract	1 South	BORING	6# <u>B4052</u>
SAMPLED BY:	DLB	WEATHER:				
Time	Date					
		INITIAL WATER L	EVEL:	***	feet belo	w ground surface
		TOTAL WELL DE	PTH:	•	feet below	w ground surface
		FREE PRODUCT L	EVEL:		feet belov	w ground surface
4.		SUBSEQUENT WA	TER LEVEL:		feet belov	w ground surface
		SUBSEQUENT WA	TER LEVEL:	-	feet belov	w ground surface
FRACTION (circle)	☐ PERISTALT SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE		CONTAINER TYPE
voc	1540	11/14/02	High	40 80 m	1	40 ml vial
TPH DRO	1540	11/14/02	HET	Yon		1,000 ml amber bottl
PAH -			none			1,000 ml amber bottl
TOTAL METALS			HNO3			500 ml plastic bottle
BTEX _			HCI			40 ml vial
-						
-						
BAILED DRY: YES	,,					
WATER QUALITY OBS	ERVATIONS:		<u></u>	·		
REMARKS:	••••					
SIGNATURE:)e	?		DATE:	14/02	- 1

PRO	JECT # 510200	PROJECT NAME:	Boeing Tract	1 South	BORING #_E	40W1
SAMPLED BY:	Deo	WEATHER:				
Time	Date	INITER NATED I	DVDI .	7.1	f	. 1
1455		INITIAL WATER L	evel:		feet below grou	
		TOTAL WELL DEF	TH:		feet below grou	nd surface
		FREE PRODUCT L	EVEL:		feet below grou	nd surface
		SUBSEQUENT WA	TER LEVEL:		feet below groun	nd surface
		SUBSEQUENT WA	TER LEVEL:		feet below groun	nd surface
Sampling meth	OD: DISPOSABL	E POLYETHYLENE I	BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	o co	NTAINER TYPE
Vóc	1515	11/14/02	HEST	80m 1		40 ml vial
TPH DRO			Her		<u></u>	000 ml amber bottle
PAH			none			000 ml amber bottle
TOTAL METALS BTEX			HNO3 HCl			00 ml plastic bottle 40 ml vial
J.L.A.			1101			
					~ ~~	
BAILED DRY:	res 🗆 NO 🎾					
WATER QUALITY	OBSERVATIONS:	Veny I	YURB ID	DANK BL	low_	
REMARKS:	341CD	1/2 GALLON	1 44	BANGO DO.	NN 70 L	8"
SIGNATURE:	De	3		DATE: 11/14/	02	

UST Site #2

PROJE	CCT # 510200	PROJECT NAME	: Boeing Tract	1 South	BORING # 84851
SAMPLED BY:	DCB	WEATHER	: CLOUDY		
Time	Date 11/14/6 \(\tag{2}	INITIAL WATER TOTAL WELL D FREE PRODUCT SUBSEQUENT W SUBSEQUENT W	EPTH: LEVEL: 'ATER LEVEL:	<u>4.5</u> <u>16</u> <u>-</u>	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
SAMPLING METHOD	DISPOSABL	E POLYETHYLEN IC PUMP	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	D CONTAINER TYPE
PAH TOTAL METALS		11/14/62	HCI none HNO3 HM	40 mi	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle 500 ml plastic bottle 40 ml vial
BAILED DRY: YE	2.3	SC16HTU	y TURES	LIGHTS	CAEY
REMARKS:	BANCED BAL DO	1/2 GALLO	- Phior	TD SAMPL.	My Dap we
SIGNATURE:	De	Pa		DATE: ///.	4/02_

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PROJE	CT # 510200	PROJECT NAME:	Boeing Tract 1	South	BORING # <u>84032</u>
SAMPLED BY:	<u> </u>	WEATHER:	overcast, col	J, w. J.	
Time	Date				
1245	11/15/02	INITIAL WATER	LEVEL:	13.1	feet below ground surface
	1415/02	TOTAL WELL DE	epth:	14'	feet below ground surface
		FREE PRODUCT	LEVEL:		feet below ground surface
		SUBSEQUENT WA	ATER LEVEL:		feet below ground surface
-		SUBSEQUENT WA	ATER LEVEL:		feet below ground surface
SAMPLING METHOD	e: 🔯 disposabi	LE POLYETHYLENE	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	D CONTAINER TYPE
VOC			нсі		40 ml vial
TPH DRO	1340	11/15/07	The hove	Komh	1,000 ml amber bettle
PAH TOTAL METALS			none		1,000 ml amber bottle
TOTAL METALS (BTEX)	1349	1415/02	HNO3	40 mL	500 ml plastic bottle 40 ml vial
					
			_		
BAILED DRY: YES	ои 🔀				
WATER QUALITY OF	SSERVATIONS:	VOLY TURBI	D DURING	PURSIUS.	
	-	SAMPLE SL	IGHTLY TU	RBID, LIGHT	Thu coupl
REMARKS: DEIL	ers had to pu	ISH SCREEN THR	ENCH SOIL TO	GET TO BOHT	n. SLOTS ANDBOBLY
F UE	WHICH IS WHY	PIEZOMETER 154	rom to beauton	CE WATER. J	porox 150 ml purged anoir
SIGNATURE:	a Eli			DATE: 11 15	02
/).			, ,	

PROJEC	CT # 510200	PROJECT NAME	Boeing Tract 1	South	BORING #_134853	
SAMPLED BY: JEF WEATHER: overcast, cold, windy						
Time	Date					
1303	11/15/02	INITIAL WATER	R LEVEL:	7.1	feet below ground surface	
<u></u>	11/15/02	TOTAL WELL D	ертн:	_ Ιφ	feet below ground surface	
		FREE PRODUCT	LEVEL:	feet below ground surface		
		SUBSEQUENT W	VATER LEVEL:		feet below ground surface	
		SUBSEQUENT W	VATER LEVEL:		feet below ground surface	
SAMPLING METHOD: DISPOSABLE POLYETHYLENE BAILER PERISTALTIC PUMP						
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE	
			HCI		40 ml vial	
TPH DRO	1350	11 15 02	- The bode	Home	1,000 ml amber toute	
PAH MEMALE			none .		1,000 ml amber bottle	
TOTAL METALS BTEX	1350	11/15/02	HNO3	YOM	500 ml plastic bottle 40 ml vial	
			-			
·						
BAILED DRY: YES	П по 🗵					
WATER QUALITY OB	SERVATIONS:	WATER SLI	GHTUY TUR	BID, LIGHT	Thu couck	
REMARKS:O.	5 gal punge	2 prior to	Sampling			
SIGNATURE:	ME.			DATE: 11/15	02	

PROJEC	CT #510200	PROJECT NAME:	Boeing Tract	1 South	BORING # B4854D		
SAMPLED BY:	JEF	WEATHER:	overcust,	cold.			
Time	Date			dry			
1455	niisioz	INITIAL WATER	LEVEL:	ary	feet below ground surface		
***************************************	-	TOTAL WELL DI	EPTH:	76.	feet below ground surface		
·		FREE PRODUCT	LEVEL:		feet below ground surface		
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface		
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface		
SAMPLING METHOD:	SAMPLING METHOD: DX DISPOSABLE POLYETHYLENE BAILER PERISTALTIC PUMP						
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE		
VOC			HCl		40 ml vial		
TPH DRO			HCI		1,000 ml amber bottle		
PAH			none		1,000 ml amber bottle		
TOTAL METALS			HNO3		500 ml plastic bottle		
BTEX			HCI		40 ml vial		
				• · · · · · · · · · · · · · · · · · · ·			
BAILED DRY: YES	□ по □						
WATER QUALITY OB	SERVATIONS:						
	LED LINTER O	U 11/18 A		PIECONUTES.			
SIGNATURE:	MEQ.			DATE: 11 19 0			

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PROJE	CCT #510200	PROJECT NAME	E: Boeing Trac	t 1 South	BORING	# <u>84855</u>
SAMPLED BY:	JEF/OLB	WEATHEI	R: MOSILY CLAN	r, cor		
Time	Date					
1523	11/19/02	INITIAL WATE	R LEVEL:	11.3	feet belov	v ground surface
		TOTAL WELL I	ОЕРТН:	SET 16 13'	feet below	v ground surface
		FREE PRODUC	T LEVEL:		feet belov	v ground surface
		SUBSEQUENT V	WATER LEVEL:		feet below	ground surface
		SUBSEQUENT V	WATER LEVEL:		feet below	ground surface
Sampling Method	D: 🔯 DISPOSABL	E POLYETHYLEN IC PUMP	NE BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D	CONTAINER TYPE
voc			HCl			40 ml vial
TPH DRO	15/0 1550	11/12/02	harle I	40mL		1,000 ml amber bottle
TOTAL METALS			- none HNO3			1,000 ml amber bottle 500 ml plastic bottle
	15 ST BO 1550	11/19/02	NAME OF	40m		40 ml vial
						. •
			- -			
BAILED DRY: YE	s⊠ no 🗆					₹
WATER QUALITY O	BSERVATIONS:	VERY TURBIC	MED DAG	ek brey loca	مم	
REMARKS:	_					
	<u> </u>					
SIGNATURE:	Ju E.J.			DATE: 121	1/02	

PROJEC	CT# 510200	PROJECT NAME:	Boeing Tract 1	South	BORING# 84856
SAMPLED BY:	JEF DLB	WEATHER:	mostly blear,	رهما_	
Time	Date				
1531	11/19/02	INITIAL WATER	LEVEL:	5.5	feet below ground surface
<u> </u>		TOTAL WELL DE	PTH:	15	feet below ground surface
		FREE PRODUCT	LEVEL:	· · · · · · · · · · · · · · · · · · ·	feet below ground surface
		SUBSEQUENT WA	ATER LEVEL:	· · · · · · · · · · · · · · · · · · ·	feet below ground surface
		SUBSEQUENT WA	ATER LEVEL:		feet below ground surface
SAMPLING METHOD	DISPOSABL	E POLYETHYLENE	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE
VOC			НСІ		40 ml vial
TPH DRO	1550 1540	11/19/02	Juliel none	40mL	amber bottle
РАН			none	· · · · · · · · · · · · · · · · · · ·	1,000 ml amber bottle
TOTAL METALS			HNO3		500 ml plastic bottle
BTEX	1540	11/19/02	and long	40 mL	40 ml vial
			-		
BAILED DRY: YES	□ мо 🗓		-		
WATER QUALITY OB	SERVATIONS:	YERY TURBIO!	SICTY, MED	DATEK GREY	ISH TAN COLOR
	_	· · · · · · · · · · · · · · · · · · ·			
REMARKS:	0.5 sal purged	prior to Jemple	collection		
SIGNATURE:	Jan El	<u>` </u>		11/19 DATE: 12/1	102 102 102 102

PROJE	CT # 510200	PROJECT NAM	E: Boeing Tract	1 South_	BORING # 34857
SAMPLED BY:	TET DUB	WEATHE	R: <u>Clear, Coo</u>		
Time	Date				
155B		INITIAL WATE	R LEVEL:	11.5	feet below ground surface
		TOTAL WELL	DEPTH:	12.5	feet below ground surface
		FREE PRODUC	T LEVEL:		feet below ground surface
		SUBSEQUENT	WATER LEVEL:		feet below ground surface
		SUBSEQUENT	WATER LEVEL:		feet below ground surface
Sampling Method	DISPOSABL	E POLYETHYLEN	NE BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE
voc		-,,-	HCl		40 ml vial
TPH DRO	1600	11/20/02	_ variet	41 mL	1,000 ml amber bottle
PAH			none	-	1,000 ml amber bottle
TOTAL METALS	1600	11/20/02	Ther Hell HNO3	40mL	500 ml plastic bottle 40 ml vial
		11/22/55	_ · · · · · · · · · · · · · · · · · · ·		
			-		
BAILED DRY: YES	Г ОИ 🗆 г				
WATER QUALITY OF	SSERVATIONS:	TURBID, LI	SHT TANNISH (sre)	· · · · · · · · · · · · · · · · · · ·
_	smple collections	•		7	ater surface.
SIGNATURE:	A E			DATE:	07

P:\510200\PIEZGWSAMLERORMAS

PROJE	CT # 510200	PROJECT NAME	Boeing Tract	1 South	BORING # <u>B4858</u>
SAMPLED BY:	JEF DLB	WEATHER	?: <u>Clear, 2000)</u>		
Time /540	Date	TOTAL WELL DEFREE PRODUCT	DEPTH: I LEVEL: VATER LEVEL:	<u>14.5</u>	feet below ground surface feet below ground surface feet below ground surface feet below ground surface
SAMPLING METHOD	e: 🛭 DISPOSABLI	SUBSEQUENT V E POLYETHYLEN C PUMP			feet below ground surface
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE
VOC TPH DRO PAH TOTAL METALS BTEX	1620	11/20/02	HCI HeI none HNO3 NOJE HeI	40 mL	1,000 ml amber bottle 1,000 ml plastic bottle 40 ml vial
BAILED DRY: YES		TURBID TO S	SUCHTLY TUR	BID, Ught-ta	n color
REMARKS:					
SIGNATURE:	Je Si			DATE: 11 20	02

PROJE	CT# 510200	PROJECT NAME:	Boeing Tract	1 South	BORING #	B4859.
SAMPLED BY:	ব্দ	WEATHER:	Overrast mo	stly douly, cold	claw	
Time 1043	Date	INITIAL WATER	LEVEL:	9.9	feet below g	ground surface
	11/21/02	TOTAL WELL DI	ЕРТН:	13'	feet below g	ground surface
		FREE PRODUCT	LEVEL:		feet below g	cround surface
		SUBSEQUENT W	ATER LEVEL:		feet below g	cround surface
		SUBSEQUENT W	ATER LEVEL:		feet below g	ground surface
SAMPLING METHOD	e: 🖸 DISPOSABL	E POLYETHYLENE IC PUMP	E BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D	CONTAINER TYPE
voc			HCI			40 ml vial
(PH DRO	1115	11/21/02	нсі	100mL		1,000 ml amber bottle
PAH			none			1,000 ml amber bottle
TOTAL METALS			HNO3			500 ml plastic bottle
BTEX	7195	11/21/02	. HCI		,	40 ml vial
						
			•			
BAILED DRY: YES	з 🖾 по 🗌					
WATER QUALITY OF	sservations: \\	ATVADIO, L	ICHT GRE	Y ISH Thu		
	SAMPLE COLLECTION OF THE BITES		rgim. Tr	-H-D150 (900	mL) co	(lected
SIGNATURE:	me 2			DATE: '1	21/02	

PROJEC	CT # 510200	PROJECT NAME	Boeing Tract	1 South	BORING # 318510
SAMPLED BY:	JET DUS	WEATHER:	overcast, co	old, umdy	
Time //45 SAMPLING METHOD	Date	INITIAL WATER TOTAL WELL DI FREE PRODUCT SUBSEQUENT W SUBSEQUENT W E POLYETHYLENE	EPTH: LEVEL: ATER LEVEL: ATER LEVEL:	6.8	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE
VOC TPH DRO PAH TOTAL METALS BTEX	1200	11/21/02	HCI HCI none HNO3 HCI	900 mL 860mL	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle 500 ml plastic bottle 40 ml vial
BAILED DRY: YES WATER QUALITY OB		~ ~~~			
REMARKS:				. /	<u> </u>
SIGNATURE:	MCF	<u>~</u>	· · · · · · · · · · · · · · · · · · ·	DATE:	102

UST Site #4

PR	OJECT #510200	PROJECT NAME: Boeing Tract 1 South			BORING # <u>B4552</u>
SAMPLED BY:	DLB	WEATHER:	SUNNY 4	15	
Tim 1125	, ,	INITIAL WATER I	.EVEL:	<u>4.2</u>	feet below ground surface
		TOTAL WELL DE	PTH:	12	feet below ground surface
 .		FREE PRODUCT L	EVEL:		feet below ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below ground surface
SAMPLING MET	HOD: DISPOSABL	E POLYETHYLENE IC PUMP	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
voc			HCI		40 ml vial
PH DRO	1130	11/18/02	मुद्रा	40 mg	1,000 ml amber bottle
PAH	, , , , , , , , , , , , , , , , , , , 	•	none		1,000 ml amber bottle
TOTAL METALS	1/30	11/18/02	ноз н	40 m/	500 ml plastic bottle 40 ml vial
			,, c.		
					
BAILED DRY:	YES NO NO				
WATER QUALIT	Y OBSERVATIONS:	PRODUCT S	RBD, D	OHNK GRAY	specks of
REMARKS:	DID NOT 1	PURSE DUE	- 18 PIGE	ometer jus	T BEING INSTALLED P
SIGNATURE:	De	-63		DATE://	18/02

PRO	OJECT#510200	PROJECT NAME:	Boeing Tract	1 South	BORING #	B45 S3
SAMPLED BY:	PCB_	WEATHER:	ציינים	45		
Time 1140	Date	INITIAL WATER		<u>7,4</u> 	feet below gro	
		FREE PRODUCT	LEVEL:		feet below gro	und surface
		SUBSEQUENT WA	ATER LEVEL:		feet below gro	und surface
		SUBSEQUENT WA	ATER LEVEL:		feet below gro	und surface
SAMPLING METH	HOD: Z DISPOSABL	E POLYETHYLENE	BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D C	ONTAINER TYPE
VOC TPH DRO	11/6	11/18/02	HCI WGL	40m1	 1	40 ml vial
PAH			none			,000 ml amber bottle
TOTAL METALS BTEX	1145		HNO3	46~1		500 ml plastic bottle 40 ml vial
BAILED DRY: WATER QUALITY	YES NO OBSERVATIONS:	veny T	OKBID	Dank ca	: AY	
REMARKS:	DID NOT	Pures, Pic	Comerca	n INSTAN	00 E 1	135
SIGNATURE:	De P			DATE: 11/1	/dor	

PROJEC	CT # 510200	PROJECT NAME:	Boeing Tract	1 South	BORING	# B4654D
SAMPLED BY:	256 pre	WEATHER:	CLETTE, CO	₩ <u></u>		
Time	Date	INITIAL WATER	LEVEL:	<u>31.8</u>	feet belo	w ground surface
		TOTAL WELL DE	EPTH:		feet belo	w ground surface
		FREE PRODUCT	LEVEL:		feet belo	w ground surface
	-	SUBSEQUENT WA	ATER LEVEL:	· · · · · · · · · · · · · · · · · · ·	feet belov	w ground surface
	·- <u></u>	SUBSEQUENT W	ATER LEVEL:		feet belov	w ground surface
SAMPLING METHOD:	DISPOSABL	E POLYETHYLENE IC PUMP	BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D	CONTAINER TYPE
Voc			нсі			40 ml vial
TPH DRO	0920	11/19/02	HCI	1,0,00	nl	1,000 ml amber bottle
PAH			none			1,000 ml amber bottle
TOTAL METALS	0920	11/19/02	HNO3 HCl	40~	i	500 ml plastic bottle 40 ml vial
						, , , , , , , , , , , , , , , , , , ,
BAILED DRY: YES	□ иох					
WATER QUALITY OB	SERVATIONS:	SCIONILY TUR	BID , LIGHT	GRETISH PAN	·	
REMARKS: REMARKS	ed 1.5 Jul p	nor to sumpling				
SIGNATURE:	Xu EX	· · · ·		DATE: 1/ 19/0	2_	

PROJE	ECT# 510200	PROJECT NAME:	Boeing Tract	1 South Bo	oring # <u>84586</u>
SAMPLED BY:	DLB	WEATHER:	charot &	್	
Time 	Date ((/ 18/02	INITIAL WATER	LEVEL:	4.5fe	et below ground surface
·		TOTAL WELL DI	ЕРТН:	12fe	et below ground surface
		FREE PRODUCT	LEVEL:	fe	et below ground surface
		SUBSEQUENT W	ATER LEVEL:	fe	et below ground surface
		SUBSEQUENT W	ATER LEVEL:	fe	et below ground surface
SAMPLING METHOI	☐ PERISTALT			VOLUME	
(circle) VOC	SAMPLE TIME	DATE	PRES.	COLLECTED	CONTAINER TYPE 40 ml vial
TPH DRO	1545	11/18/02	HET	40 m	1,000 ml amber bottle
PAH TOTAL METALS			none HNO3		1,000 ml amber bottle 500 ml plastic bottle
втех	1545	11/18/02	н	40 M	40 ml vial
BAILED DRY: YE	•	5 C/641	y wito	, L1641 BROW	. ~
	_		7		
REMARKS:	SAMPLES	w/12 30 min	UTES OF	INSTALLATION	DIO NOT PURSE.
SIGNATURE:	De B			DATE: 11/19/02	

PROJECT # 510200	PROJECT NAME: Boeing Tract	1 South B	ORING# <u></u> B45 \$7
SAMPLED BY: DLG	WEATHER: COUSY	<u></u>	
Time Date	· INITIAL WATER LEVEL:	4.5 fe	eet below ground surface
1600 11/1901	TOTAL WELL DEPTH:	2	eet below ground surface
0930 "/19/02	FREE PRODUCT LEVEL:		eet below ground surface
0930 11/19/02	SUBSEQUENT WATER LEVEL:	<u>4.8</u> fe	eet below ground surface
	SUBSEQUENT WATER LEVEL:	fe	eet below ground surface
SAMPLING METHOD: Disposab	LE POLYETHYLENE BAILER FIC PUMP		
FRACTION (circle) SAMPLE TIME	DATE PRES.	VOLUME COLLECTED	CONTAINER TYPE
VOC PAH PAH	HCI II/19/02 None	40m/	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle
TOTAL METALS	11/19/02 FPEL	40,000	500 ml plastic bottle 40 ml vial
BAILED DRY: YES NO NO			
WATER QUALITY OBSERVATIONS:	PULLOS ABOUT 1/4 C.	ALLOW, BAILED	DOWN 70 2/1
REMARKS: DID NOT S	TAMPLE, SLIGHT PROTEST. PROTECTED CLEAR DOR, ONLY IT VANY S.	- color, f	estorem obje
SIGNATURE:	DOR, ONLY IX VERY S	DATE: 11/18/0	2

PROJE	SCT# 510200	PROJECT NAME:	Boeing Tract 1	South	BORING # 84588	
SAMPLED BY:	DLB	WEATHER:	SUNUY 45	ə ———		
Time	Date ///19/02 DISPOSABI	INITIAL WATER I TOTAL WELL DE FREE PRODUCT I SUBSEQUENT WA SUBSEQUENT WA	PTH: _ LEVEL: _ ATER LEVEL: _	5.4 12.0	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface	
Oraci Barto Maria	☐ PERISTALT					
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	O CONTAINER	ГУРЕ
VOC			HCI _		40 ml viz	
TPH DRO PAH	<u>0845</u>	1/19/02	none	40~1	1,000 ml ambe	
TOTAL METALS			HNO3		500 ml plastic	
RTEX	0840	11/19/02	ntel _	40 m1	40 ml viz	1
			-			
BAILED DRY: YE	з□ по 🗵					
WATER QUALITY OBSERVATIONS: TURBID, DANK GRAY						
REMARKS:	Dio Not Pu	REE, Sampe	soo winti	N 30 MINUT	to or insorquent	iν
SIGNATURE:	De R			DATE:	9/0-	

	PROJE	CT# 510200	PROJECT NAME:	Boeing Tract	1 South	BORING	# <u>B4559</u>
SAMPLE	D BY;	DLB	WEATHER:	SUNN	1 50		
	Time /} აა	Date			מו		
-	1300	- "/1902	INITIAL WATER	FRART:	7.4	feet below	v ground surface
_			TOTAL WELL DE	SPTH:		feet below	y ground surface
-			FREE PRODUCT	LEVEL:		feet below	ground surface
-			SUBSEQUENT WA	ATER LEVEL:		feet below ground surface	
_			SUBSEQUENT WA	ATER LEVEL:		feet below	ground surface
SAMPLING METHOD: DISPOSABLE POLYETHYLENE BAILER PERISTALTIC PUMP							
FRACTI (circle		SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE		CONTAINER TYPE
VOC				HCI			40 ml vial
TPH DRO	>	1315	11/19/02	per	40m	\1	1,000 ml amber bottle
PAH TOTAL M	DTAI C			none HNO3			1,000 ml amber bottle 500 ml plastic bottle
BTEX	EIALO	1315	11/19/02	pci-	40mi		40 ml vial
BAILED I	BAILED DRY: YES NO NO						
WATER QUALITY OBSERVATIONS: TURBIO, DARK BROWN SUBHT PETROLEUM SHEEN ON WATER.							
REMARKS: DID NOT PURGE PRIOR TO SAMPLING WITHIN BOMINUTES							
SIGNATU	RE:	e P		-	DATE:	19/02	_

PROJE	SCT# 510200	PROJECT NAME:	Boeing Tract	1 South	BORING # <u>B</u> 45510		
SAMPLED BY:	Jer	WEATHER:	Przy Cumpy, C	<u>Coa</u>			
Time Sep 1341 SAMPLING METHOR	Date //(19/02. D: 🔼 DISPOSABI	INITIAL WATER TOTAL WELL DI FREE PRODUCT SUBSEQUENT W. SUBSEQUENT W. LE POLYETHYLENE	EPTH: LEVEL: ATER LEVEL: ATER LEVEL:	<u>5.5′</u> ~//′	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface		
	☐ PERISTALT						
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE		
VOC TPH DRO PAH TOTAL METALS BTEX	1345	11/19/02	HCI BCI None HNO3 FRI und	40 mL	1,000 ml amber bottle 1,000 ml plastic bottle 40 ml vial		
WATER QUALITY OBSERVATIONS: WATER YORY TURBO SILTY, DARK GREY COLOL							
REMARKS: SA	mpled wie pure						
SIGNATURE:	(le S)			DATE: 11/19	02		

Tank Farm and Paint/Solvent Storage Area at Building 41

PROJE	ECT# 510200	PROJECT NAME	: Boeing Tract	1 South	BORING # BYIEID	
SAMPLED BY:	DB SET	WEATHER	: MOSTUP C	Leady		
Time	Date					
1590	11/13/02	INITIAL WATER	LEVEL:	64, 9	feet below ground surface	
*****		TOTAL WELL D	ЕРТН:		feet below ground surface	
		FREE PRODUCT	LEVEL:		feet below ground surface	
1654	11/13/02	SUBSEQUENT W	ATER LEVEL:	57.2	_ feet below ground surface	
0720	11/14/02	SUBSEQUENT W	ATER LEVEL:	4.7	feet below ground surface	
SAMPLING METHOL	D: DISPOSABL	E POLYETHYLENI IC PUMP	E BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME CO <u>LLEC</u> TE	D CONTAINER TYPE	
6	1550	11/13/02	HCI	40 88 ml	40 ml vial	
TPH DRO	1530	11/13/02	HCI	40 20 mL	000 ml amber bottle	
PAH	1710		none		1,000 ml amber bottle	
TOTAL METALS			. HNO3		500 ml plastic bottle	
BTEX			. HCl		40 ml vial	
			•			
BAILED DRY: YE	s 🗌 NO 🗍					
WATER QUALITY OF	BSERVATIONS:			······································		
REMARKS:				•		
SIGNATURE:	Ve EX			DATE: Q	3 02	

PRO	JECT#510200	PROJECT NAME:	Boeing Tract	1 South	BORING # RUIE1
SAMPLED BY:	N.B/307	WEATHER:			
Time 1515	Date	INITIAL WATER L TOTAL WELL DEI FREE PRODUCT L SUBSEQUENT WA SUBSEQUENT WA	PTH: .EVEL: .TER LEVEL:	4.5	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
SAMPLING METH	od: 💆 disposabi	LE POLYETHYLENE FIC PUMP	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	CONTAINER TYPE
PAH DRO TOTAL METALS BTEX	<u>1535</u>	11/12/0-2	HOL none none HNO3 HCI	MomL 40 mL	40 ml vial 40 ml vial 40 ml vial 1,000 ml amber bottle 1,000 ml plastic bottle 40 ml vial
BAILED DRY: Y		YORY TURBID,	DARK GRXT	to breyish 9	TAU
REMARKS:				1 /	
SIGNATURE:	W2/	<u></u>		DATE: 11 12	<u>2</u>

TEMPORARY PIEZOMETER GROUNDWATER SAMPLING DATA SHEET

PROJEC	CT #510200	PROJECT NAME:	Boeing Tract	1 South	BORING # BYI NI
SAMPLED BY:	JUF NB	WEATHER:			
Time	Date	INITIAL WATER I	FVEL	5.2	feet below ground surface
		TOTAL WELL DE			feet below ground surface
-					•
	•	FREE PRODUCT I			feet below ground surface
	•	SUBSEQUENT WA	TER LEVEL:		feet below ground surface
	•	SUBSEQUENT WA	TER LEVEL:		feet below ground surface
SAMPLING METHOD:	DISPOSABL	E POLYETHYLENE	BAILER		
	☐ PERISTALT	IC PUMP			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE
voc	1420	11/8/02	HCI	40 mL	40 ml vial
TPH DRO			HCl		1,000 ml amber bottle
PAH TOTAL METALS	·		none HNO3		1,000 ml amber bottle 500 ml plastic bottle
BTEX			HCI		40 ml vial
BAILED DRY: YES	□ ио 🛛				
WATER QUALITY OB	SERVATIONS:	Sheen on wa	ter surface	in bucket	
	-				
REMARKS:	<u> </u>		·		
	A	<u>. </u>			
SIGNATURE:	Dr. E. V.		· · · · · · · · · · · · · · · · · · ·	DATE:	07_

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PROJE	CT #510200	PROJECT NAME:	Boeing Trace	t 1 South	BORING # 15 184151	
SAMPLED BY:	JEF DUR	WEATHER:	clear, coo	<u></u>		
Time	Date					
H22		INITIAL WATER	LEVEL:	11.15	feet below ground surface	
1124	11/7/02	TOTAL WELL DI	ЕРТН:	10.4	feet below ground surface	
		FREE PRODUCT	LEVEL:		feet below ground surface	
1208	11/7/02	SUBSEQUENT W	ATER LEVEL:	13.05	feet below ground surface	
·		SUBSEQUENT W	ATER LEVEL:		feet below ground surface	
SAMPLING METHOD	DISPOSABL PERISTALT	E POLYETHYLENE	BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE	
voc	1120	1/3/02	нсі	40 mL	40 ml vial	
TPH DRO JEF	1215	11/7/02	HCI		1,000 ml amber bottle	
PAH	1415	11/7/02	none	900 ml	1,000 ml amber bottle	
TOTAL METALS			HNO3		500 ml plastic bottle	
BTEX			HCI		40 ml vial	
			•			
					· ·	
BAILED DRY: YES 🗹 NO 🗌						
WATER QUALITY OBSERVATIONS:						
REMARKS:	-					
	\cap					
SIGNATURE:	MEY			DATE: 11/7	07	

PROJEC	CT # 510200	PROJECT NAME:	Boeing Tract	1 South	BORING # <u>B4152</u>
SAMPLED BY:	Dea	WEATHER:			
Time 125b 1422	Date	INITIAL WATER I TOTAL WELL DE FREE PRODUCT I SUBSEQUENT WA	PTH: .evel: .ter level:	3.26 3.10 16	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
SAMPLING METHOD	: 🛛 DISPOSABL	E POLYETHYLENE IC PUMP	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE
TPH DRO PAH TOTAL METALS BTEX	1430 1430 1440	11/7/02 11/7/02 11/7/02	HCI HCI none HNO3 HCI	2 x 40m	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle 500 ml plastic bottle 40 ml vial
BAILED DRY: YES WATER QUALITY OB	\triangle	VERY TUR	BiD, D		
REMARKS:					
SIGNATURE:	<u>) </u>	7		DATE: ///-	1/02

PROJEC	CT # 510200	PROJECT NAME	Boeing Tract	1 South	BORING# B4153D
SAMPLED BY:	JEF DLB	WEATHER	PHLY SURMY		
Time	Date				
1545	11/8/02	INITIAL WATER	LEVEL:	69.5	feet below ground surface
		TOTAL WELL D	ЕРТН:		feet below ground surface
		FREE PRODUCT	LEVEL:		feet below ground surface
0755	11/11/02	SUBSEQUENT W	ATER LEVEL:	60,5	feet below ground surface
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface
SAMPLING METHOD:	: Ø disposabl	E POLYETHYLENI IC PUMP	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE
(voc)	1600	11/8/02	нсі	20 mL	40 ml vial
TPH DRO		<u> </u>	HCI		1,000 ml amber bottle
PAH			none		1,000 ml amber bottle
TOTAL METALS			HNO3		500 ml plastic bottle
BTEX			. HCI		40 ml vial
			•1		
BAILED DRY: YES	No 🗆				
WATER QUALITY OB	SERVATIONS:				
•	_				
REMARKS:					
SIGNATURE:).e	B		DATE:	/oz

PROJE	CT# 510200	PROJECT NAME	: Boeing Tract 1	South	BORING # <u>84154</u>
SAMPLED BY:	JEF DLD	WEATHER	: MOSTLY SUNNY	Cool	
Time	Date				
1018	11/13/02	INITIAL WATER	LEVEL:	3,9'	feet below ground surface
		TOTAL WELL D	ЕРТН:	16	feet below ground surface
*****		FREE PRODUCT	LEVEL:		feet below ground surface
	_	SUBSEQUENT W	ATER LEVEL:		feet below ground surface
•		SUBSEQUENT W	ATER LEVEL:		feet below ground surface
SAMPLING METHOD	e: 🌠 disposabi	LE POLYETHYLEN FIC PUMP	E BAILER	· .	:
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
voc	1040	11/13/02	DKI NOUE	80 mL	40 ml vial
TPH DRO		·	нсі		1,000 ml amber bottle
PAH			none		1,000 ml amber bottle
TOTAL METALS	1050	11/13/02	HNO3	750 ml	25 see ml plastic bottle
BTEX			HCI -		40 ml vial
			-		
BAILED DRY: YES	Мои 🗆				
WATER QUALITY OF	SSERVATIONS:				
	-				
REMARKS:					
-					
SIGNATURE:	De P			DATE:	13/02

PROJE	CCT # 510200	PROJECT NAME:	Boeing Tract	1 South	BORING # MW-18
SAMPLED BY:	JUR DUB	WEATHER:		·	
Time	Date 113/02	INITIAL WATER	LEVEL:	4.46	feet below ground surface
0923	11/13/02	TOTAL WELL D	EPTH:	1141	feet below ground surface
		FREE PRODUCT	LEVEL:		feet below ground surface
		SUBSEQUENT W	ATER LEVEL:	•	feet below ground surface
		SUBSEQUENT W	ATER LEVEL:		feet below ground surface
SAMPLING METHOL	D: DISPOSABL	E POLYETHYLENI	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
(40C)	1005	11/14/02	HCI	2 40mL	40 ml vial
TPH DRO	1005	11/14/02	HCI	40 mL	1,000 ml amber bottle
PAH TOTAL METALS			HNO3		1,000 ml amber bottle 500 ml plastic bottle
BTEX			HCl		40 ml vial
					
			•		
BAILED DRY: YE	s 🗌 по 🔀				
WATER QUALITY OF	SSERVATIONS:	Clear, colo	less		
REMARKS: Bo		gal. prior	to sample	collection	
SIGNATURE:	mEx:			DATE: 1114	02

Paint Accumulation Area West of Building 2



PROJE	CT # 510200	PROJECT NAME	: Boeing Tract	1 South	BORING # BZI1
SAMPLED BY:	JEF AUB	WEATHER	: MOSTLY CLOU	or	
Time 1615 /655	Date	INITIAL WATER TOTAL WELL D FREE PRODUCT SUBSEQUENT W SUBSEQUENT W	EPTH: LEVEL: 'ATER LEVEL: 'ATER LEVEL:	<u> .3</u> <u> /3.⊅</u>	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
SAMI LING METHOD	□ PERISTALT		DAIDEN		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE
voc	1700		HCI	Bomi	40 ml vial
TPH DRO			HCI		1,000 ml amber bottle
PAH			none		1,000 ml amber bottle
TOTAL METALS	1625	<u>. </u>	HNO3	200 m	500 ml plastic bottle 40 ml vial
BTEX			- HCI		40 mi Viai
			-		
BAILED DRY: YES	NO 🗆				
WATER QUALITY OB	SERVATIONS:	SLIGHTLY	CLOUDY	, TAN COC	OL
REMARKS:	16HT &				
SIGNATURE:				DATE:	

PR	OJECT # 510200	PROJECT NAME	E: Boeing Tract	1 South B	ORING# B2W1
SAMPLED BY:	JEF/DUB	WEATHER	RE ATEN CLOUDY,	רשטב שיוח של	
Time 1105 11 5	11/8/02	INITIAL WATER TOTAL WELL D FREE PRODUCT SUBSEQUENT V SUBSEQUENT V	DEPTH: I LEVEL: VATER LEVEL: VATER LEVEL:	fe	eet below ground surface eet below ground surface eet below ground surface eet below ground surface eet below ground surface
	☐ PERISTAL1	TIC PUMP			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
Voc	1120	11/8/02	_ HCI	#50 40 m	40 ml vial
TPH DRO	1340	11/8/02	_ HCI	7121	1,000 ml amber bottle
TOTAL METAL	1340	11/8/02	– none HNO3	\$50ml	1,000 ml amber bottle 500 ml plastic bottle
BTEX			– HCI		40 ml vial
			-		
BAILED DRY:	YES 🗌 NO 🔀				
WATER QUALITY	OBSERVATIONS:				
REMARKS:					
SIGNATURE:	De_	3		DATE: 11/8/02	2

Industrial Sewer Line

PROJE	CT # 510200	PROJECT NAME	: Boeing Tract	1 South	BORING # B2N1	
SAMPLED BY:	<u> ज्व</u>	WEATHER	: Mostly clou	ساس		
Time 1541	Date	INITIAL WATER		7.6 66	feet below ground surface	
		FREE PRODUCT	LEVEL:		feet below ground surface	
		SUBSEQUENT W			feet below ground surface	
SAMPLING METHOD	: Disposabl	E POLYETHYLENI			feet below ground surface	
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTEI	CONTAINER TYPE	
TPH DRO	1615	11102	HCI HCI none	40nL	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle	
TOTAL METALS BTEX	1615	1/11/02	HNO3	200 ml	500 ml plastic bottle 40 ml vial	
		A. J. J. J. J. J. J. J. J. J. J. J. J. J.	- -			
BAILED DRY: YES	в 🖪 по 🗌					
WATER QUALITY OB	SERVATIONS:	LIGHT T	AN, Fun	611		
REMARKS:	0					
SIGNATURE:	xn? Ji	`		DATE: \\\\\	02	

P:\S10200\PIEZGWSAMLEFORM.xis

PROJECT # 510200	PROJECT NAME: Boeing Tra	ct 1 South BORING # C21-125	
SAMPLED BY:	WEATHER:		
Time Date			
11/12/02	_ INITIAL WATER LEVEL:	feet below ground surface	
	TOTAL WELL DEPTH:	feet below ground surface	
	FREE PRODUCT LEVEL:	feet below ground surface	
	SUBSEQUENT WATER LEVEL	: feet below ground surface	
•	SUBSEQUENT WATER LEVEL	: feet below ground surface	
SAMPLING METHOD: 💢 DISPOSABI	LE POLYETHYLENE BAILER	·	
FRACTION (circle) SAMPLE TIME	DATE PRES.	VOLUME COLLECTED CONTAINER TYPE	}
VOC VEF DIG	1010 11 12 01 HCI	40 ml vial	
TPH DRO	HCI	1,000 ml amber bottle	
TOTAL METALS 1010	11112107 HN03	1,000 ml amber bottle	;
BTEX	HCI	40 ml vial	
BAILED DRY: YES 🔀 NO 🗌			
WATER QUALITY OBSERVATIONS:	TURBID	·	
REMARKS: BALLED DRY A	Fred ~ 750mL		<u>-</u> -
SIGNATURE:		DATE: 11/12/07	_

PROJEC	T # 510200	PROJECT NAME:	Boeing Tract	1 South BO	RING # <u>B 2 N 3</u>
SAMPLED BY:	DLB	WEATHER:	SUNNY	% 0's	
Time 0 915	Date	INITIAL WATER I	, LEVEL:	8. / fee	t below ground surface
		TOTAL WELL DE	PTH:		t below ground surface
		FREE PRODUCT I	LEVEL:	fee	t below ground surface
		SUBSEQUENT WA	TER LEVEL:	fee	t below ground surface
		SUBSEQUENT WA	TER LEVEL:	fee	t below ground surface
SAMPLING METHOD:	DISPOSABL PERISTALT	E POLYETHYLENE IC PUMP	BAILER	· · ·	
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
voc .	0940	11/12/02	HEL	2 × 60m;	40 ml vial
TPH DRO			HCI		1,000 ml amber bottle
PAH OTAL METALS	0940	11/12/02	none HNO3	20120	1,000 ml amber bottle
BTEX	0148		HCI	250000	40 ml vial
-					
BAILED DRY: YES WATER QUALITY OBS		LIGHT 8	Rowel, 7	VRB 155	* 3
	DIAT BA	Davy	K&>&	o //2 com	an Priva 70
SIGNATURE:	3			DATE: /// L/O	3

PROJI	ECT#510200	PROJECT NAME	E: Boeing Tract	1 South	BORING # B2N4
SAMPLED BY:	JEF DLR	WEATHER	R: clear, cod		
Time	Date ///13/02	INITIAL WATEI	R LEVEL:	9.6′	feet below ground surface
		TOTAL WELL I	DEPTH:		feet below ground surface
		FREE PRODUCT	r level:		feet below ground surface
		SUBSEQUENT V	VATER LEVEL:		feet below ground surface
		SUBSEQUENT V	VATER LEVEL:		feet below ground surface
SAMPLING METHO	D: ☑ DISPOSABL	E POLYETHYLEN IC PUMP	E BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE	
Voc	0950	11/13	HCI	80 mL	40 ml vial
TPH DRO	<u> </u>		_ HCl		1,000 ml amber bottle
PAH	OPSO		none	245	1,000 ml amber bottle
TOTAL METALS	0450	11/13	- HNO3	240mL	40 ml vial
BTEX			_ HCI		40 mi viai
	-		_		
			_	<u></u>	
BAILED DRY: YE	es 🗌 no 🖫				
WATER QUALITY O	BSERVATIONS:	SLIGHTLY TI	URATO, LT T	Au color	
REMARKS: <u>Ba</u>	- 2.5-0.7	5 you prior	to sampling		
SIGNATURE:	gref)	~		DATE: // 13	102

PROJEC	CT#510200	PROJECT NAME:	Boeing Tract	1 South	BORING#_BQU5
SAMPLED BY:	DLB/JEF	WEATHER:	overcost,	<u>~ol</u>	
Time	Date				
1614	11/13/02	INITIAL WATER L	EVEL:	<u>9.2</u>	feet below ground surface
		TOTAL WELL DE	РТН:	16	feet below ground surface
		FREE PRODUCT L	EVEL:	feet below ground surface	
		SUBSEQUENT WA	TER LEVEL:	feet below ground surface	
	<u></u>	SUBSEQUENT WA	TER LEVEL:		feet below ground surface
SAMPLING METHOD	: 🕅 disposabl	E POLYETHYLENE	BAILER		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTED	CONTAINER TYPE
(oc)	1635	11/13/02	HCI	80m1	40 ml vial
TPH DRO			HCl		1,000 ml amber bottle
РАН			none		1,000 ml amber bottle
TOTAL METALS	1630	11/13/02	HNO3	250 ml	500 ml plastic bottle
втех			HCI		40 ml vial
					
BAILED DRY: YES WATER QUALITY OB	۵	SLIGHTUT 7	URBID,	LIMIT TAN	
REMARKS:	PRED ~	25 0.75 ¹¹	x 8' 15A1	LERS & PA	LIOP TO SAMPLING
SIGNATURE:	u Eli			DATE: 11 13 0	2

PROJE	CT#510200	PROJECT NAME	: Boeing Tract	1 South	BORING # 844 N1
SAMPLED BY:	JEF DB	WEATHER	: PHy cloudy		
Time 1/35	Date // 8 02 Disposable PERISTALT	INITIAL WATER TOTAL WELL D FREE PRODUCT SUBSEQUENT W SUBSEQUENT W E POLYETHYLENI	EPTH: LEVEL: 'ATER LEVEL: 'ATER LEVEL:	5.4	feet below ground surface feet below ground surface feet below ground surface feet below ground surface feet below ground surface
FRACTION	☐ PERISTALI	IC PUMP		VOLUME	
(circle) VOC TPH DRO PAH TOTAL METALS BTEX	1650 1640	DATE	HCI HCI none HNO3 HCI	200 mL	40 ml vial 1,000 ml amber bottle
BAILED DRY: YES		SUIG N TE	T (LOUD	Y, TAU-0	SREY COLOR
REMARKS:				· · · · · · · · · · · · · · · · · · ·	
SIGNATURE:	2 3			DATE: ///x/	102 a

UST Area Between Building 4 and 5

PROJECT# 510	200 PROJECT NAME	: Boeing Tract	BORING# B4E1	
SAMPLED BY: TEF O	CB WEATHER	: Overcust, colo	windy	
Time Da	l .		10.2	
	10'2 INITIAL WATER	LEVEL:	18.7	feet below ground surface
11/21	TOTAL WELL D	EPTH:	19	feet below ground surface
	FREE PRODUCT	LEVEL:		feet below ground surface
1623 1121	subsequent w	ATER LEVEL:	<u> </u>	feet below ground surface
	SUBSEQUENT W	ATER LEVEL:		feet below ground surface
	POSABLE POLYETHYLEN	E BAILER		
FRACTION (circle) SAMPLE	TIME DATE	PRES.	VOLUME COLLECTE	D CONTAINER TYPE
Voc		HCI	0177	40 ml vial
TRH DRO 1636	11/21/02	- HCI	950 m	1,000 ml amber bottle
PAH TOTAL METALS		- none HNO3		1,000 ml amber bottle 500 ml plastic bottle
1655 1655	11/21/02	НСІ		40 ml vial
		<u>.</u>		
BAILED DRY: YES ☑ NO				
WATER QUALITY OBSERVATION	is: TOABID, L	ight giveyis	h tan	
REMARKS: Nezewie	SEL LOT PUR		LORTE SAM	
Carol T	m TPH-DICE 13	F1125T 1	UELL BAILE	Day: Stan Colkete)
SIGNATURE:	2 - Care		DATE:	1/02

PROJEC	CT# 510200	PROJECT NAME:	Boeing Tract	1 South	BORING	G#B4E2D
SAMPLED BY:	DLB	WEATHER:	SUNNY N	10 8º		
7300	Date	INITIAL WATER TOTAL WELL DI FREE PRODUCT SUBSEQUENT W SUBSEQUENT W	EPTH: LEVEL: ATER LEVEL: ATER LEVEL:	12.5	feet below	w ground surface w ground surface w ground surface w ground surface w ground surface
SAMPLING METHOD:	DISPOSABLE PERISTALT	e polyethylene IC PUMP	BAILER	•		
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUM COLLECT		CONTAINER TYPE
TPH DRO PAH TOTAL METALS BTEX			HCI HCI none HNO3 HCI	1,000 m))m1	40 ml vial 1,000 ml amber bottle 1,000 ml amber bottle 500 ml plastic bottle 40 ml vial
	SERVATIONS: _	E TO 12.5	FART IN L	Ess THAN	ONE	HON, BAILED
SIGNATURE:	2 3			DATE: ///L	2/02	_

Shooting Range Bunkers

PROJEC	T# 510200	PROJECT NAME:	Boeing Tract 1	BORING#_BISEL					
SAMPLED BY:	Deb	WEATHER:	CLOUTY, h	11NO7, 40°					
Time S.2.3	Date 11/21/02	INITIAL WATER L		8.6		ground surface			
	<u></u>	FREE PRODUCT L			feet below ground surface				
	-	SUBSEQUENT WA			feet below ground surface				
د خیروغوران به است. در خیرون به در در در در در در در در در در در در در	-	SUBSEQUENT WA			ground surface				
SAMPLING METHOD:	DISPOSABL	E POLYETHYLENE							
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE		CONTAINER TYPE			
VOC			HCI			40 ml vial			
TPH DRO			HCl	-		1,000 ml amber bottle			
PAH	<u> </u>		none			1,000 ml amber bottle			
TOTAL METALS	1525	11/21/02	HNO3	253	ml	500 ml plastic bottle			
BTEX			HCI		···········	40 ml vial			
		·							
BAILED DRY: YES	по 🛛								
WATER QUALITY OB	SERVATIONS:	VICAY TURE	BAD DARK	< BROWN,					
REMARKS: DID NOT PURCE PRIOR TO SAMPLING WITHIN 30 MINUTES CE INSTITUTED (CLEETED SIMPLE IN 1 LIBERTAR, ALCOLOD TO SEPTIMENT TO SESTLE HOUR DRAWFERER TO PRESERVED 2521111 PHINE BUTTLE									
signature:	De		THE HOUSE EACH	DATE:	21/02	Server Public Direct			

PROJEC	T# 510200	PROJECT NAME: _	Boeing Tract 1	South	BORING	# B13E2
SAMPLED BY:	Dia	WEATHER: _	CLOUDY WI	NDY, 40°		
Time	Date					
1525	11/21/02	INITIAL WATER LI	EVEL:	/0.5	feet below	v ground surface
	11/11/02	TOTAL WELL DEP	тн:	16	feet below	v ground surface
		FREE PRODUCT LI	EVEL:		feet below	v ground surface
		SUBSEQUENT WAT	TER LEVEL:		feet below	ground surface
		SUBSEQUENT WAT	TER LEVEL:		feet below	ground surface
SAMPLING METHOD:	DISPOSABL	E POLYETHYLENE E	BAILER			
	☐ PERISTALT	IC PUMP				
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE		CONTAINER TYPE
VOC			нсі			40 ml vial
TPH DRO			HCI			1,000 ml amber bottle
РАН			none			1,000 ml amber bottle
TOTAL METALS	1530	11/21/07	HNO3	250,7	1	500 ml plastic bottle
BTEX		, ,	нсі			40 ml vial
				-		
						
BAILED DRY: YES	□ ио 🛛					
WATER QUALITY OBS	SERVATIONS:	Vary SU	64T TURI	BIDITY, YEL	1.05014	- B20WN
	_					
REMARKS:) ID NOT PO	nce samp	ED WITH	N 30 M	N UTEC	of
	V57A7L/1-7701					
SIGNATURE:		7		DATE:/	21/02	

PROJEC	CT#510200	PROJECT NAME:	Boeing Tract 1	South	BORING	#_R/3E3
SAMPLED BY:	DIB	WEATHER:	Cloudy,	WINDY 40		
Time 1545	$\frac{\text{Date}}{11/21/02}$	INITIAL WATER I		9.0		ground surface ground surface
	•	FREE PRODUCT I	LEVEL:		feet below	ground surface
	-	SUBSEQUENT WA	TER LEVEL:		feet below	ground surface
		SUBSEQUENT WA	TER LEVEL:		feet below	ground surface
SAMPLING METHOD	: Disposabl	E POLYETHYLENE IC PUMP	BAILER			
FRACTION (circle)	SAMPLE TIME	DATE	PRES.	VOLUME COLLECTE		CONTAINER TYPE
voc			HCI			40 ml vial
TPH DRO			HCI		·	1,000 ml amber bottle
PAH			none			1,000 ml amber bottle
TOTAL MÉTALS BTEX		11/2/02	HNO3 HCI	250.	<u>~ / </u>	500 ml plastic bottle 40 ml vial
BAILED DRY: YES	б □ ио □	,				
WATER QUALITY OF	BSERVATIONS:	TURBIT	DARK	< 300WN		
REMARKS:						
SIGNATURE:	<u></u>	5		DATE: ///	u/oz	

Appendix C

Analytical Laboratory Reports and Chain-of-Custody Forms

Mobile Lab

Mid -America Environmental





Mr. Dennis Brinkley
MACTEC
3199 Riverport Tech Center Drive
St. Louis, MO 63043

SUBJECT: DATA REPORT – MACTEC Project #510200

Boeing Tract 1 South St. Louis MO

Mid-America Environmental Project # 021107W1

Mr. Brinkley;

Enclosed, please find the data report for the above referenced location. The soil and water samples were analyzed in Mid-America Environmental's laboratory using appropriate methods and equipment.

Project Summary

The following analyses were conducted:

- 22 soils for EPA Method 8021
- 24 waters for EPA Method 8021
- 16 soils for Iowa Method OA-1
- 32 soils for Iowa Method OA-2
- 19 waters for Iowa Method OA-1
- 36 waters for Iowa Method OA-2

The samples were received in appropriate containers with appropriate labels, seals, and chain-of-custody documentation.

Project Narrative

The results for all analyses and required QA/QC analyses are summarized in the enclosed tables. All calibrations, blanks, and spike recoveries fulfill quality control criteria.

Mid-America Environmental appreciates the opportunity to provide analytical services to MACTEC on this project. If you have any questions relating to this data or report, please do not hesitate to contact us.

Sincerely,

Mr. Hermon Atkinson

President



Mid-America Environmental Project #021107W1

IOWA METHODS OA1 ANALYSES OF SOILS

SAMPLE NUMBER	DATE ANALYZED	GASOLINE (mg/kg)	MTBE (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZ (mg/kg)	XYLENES (mg/kg)	SURROGATE (%REC)
METHOD BLANK	11/15/02	ND	ND	ND	ND	ND	ND	109.8%
METHOD BLANK	11/18/02	ND	ND	ND	ND	ND	ND	130.9%
METHOD BLANK	11/19/02	ND	ND	ND	ND	ND	ND	92.9%
METHOD BLANK	11/21/02	ND	ND	ND	ND	ND	ND	93.1%
B45CS2-6	11/15/02	ND	ND	ND	ND	ND	ND	106.7%
B48S3-10	11/15/02	83	ND	0.098	0.052	0.346	0.254	75.9%
B48S1-6	11/15/02	250	ND	0.307	3.00	0.227	0.829	104.8%
B48S2-5	11/15/02	ND	ND	ND	ND	ND	ND	100.3%
B45S2-7	11/18/02	186	ND	0.601	3.20	ND	0.360	90.8%
B45S2-7 DUP	11/18/02	163	ND	0.549	2.93	ND	0.263	73.5%
B45S3-7	11/18/02	206	ND	0.242	1.55	ND	0.328	64.1%
B45S4-7	11/18/02	12	ND	ND	ND	ND	ND	101.7%
B45S6-6	11/18/02	ND	ND	ND	ND	ND	ND	97.1%
B45S7-7	11/18/02	68	ND	ND	0.067	ND	0.113	81.2%
B45S8-6	11/19/02	21	ND	ND	ND	ND	ND	107.7%
B45S9-6	11/19/02	ND	ND	ND	ND	ND	ND	103.4%
B45S10-6	11/19/02	103	ND	0.062	0.952	ND	0.513	71.3%
B48S5-6	11/19/02	66	ND	0.057	0.354	ND	0.670	74.8%
B48S6-6	11/19/02	ND	ND	ND	ND	ND	ND	92.6%
B48S8-7	11/21/02	133	ND	0.125	1.09	0.408	0.461	78.8%
B48S7-7	11/21/02	38	ND	ND	0.076	ND	0.273	78.3%

DETECTION LIMITS	5	0.050	0.050	0.050	0.050	0.050	50%-135%
ND INDICATES NOT DETECTED AT LIS	TED DETECTION	ON LIMITS					

ANALYSES PERFORMED BY: H. Atkinson / W. Robb



Mid-America Environmental Project #021107W1

IOWA METHODS OA2 ANALYSES OF SOILS

SAMPLE NUMBER	DATE ANALYZED	STODDARD SOLVENT (mg/kg)	KEROSENE (mg/kg)	DIESEL #1 (mg/kg)	DIESEL #2 (mg/kg)	MOTOR OIL (mg/kg)
METHOD BLANK	11/15/02	ND	ND	ND	ND	ND
METHOD BLANK	11/18/02	ND	ND	ND	ND	ND
METHOD BLANK	11/19/02	ND	ND	ND	ND	ND
METHOD BLANK	11/21/02	ND	ND	ND	ND	ND
345CS2-6	11/15/02	ND	ND	ND	ND	ND
348 S 3-10	11/15/02	ND	ND	ND	ND	ND
348S1 <i>-</i> 6	11/15/02	ND	ND	ND	ND	47
348S2- 5	11/15/02	ND	ND	ND	ND	ND
345 S2- 7	11/18/02	ND	ND	ND	ND	ND
45S2-7 DUP	11/18/02	ND	ND	ND	ND	ND
345S3-7	11/18/02	ND	ND	ND	ND	ND
345S4-7	11/18/02	ND	ND	ND	ND	ND
345\$6-6	11/18/02	ND	ND	ND	ND	ND
345\$7-7	11/18/02	ND	ND	ND	ND	ND
345S8- 6	11/19/02	ND	ND	ND	ND	ND
345S9 - 6	11/19/02	ND	ND	ND	ND	ND
345S10-6	11/19/02	ND	ND	ND	ND	ND
348S5-6	11/19/02	ND	ND	ND	ND	ND
48\$6-6	11/19/02	ND	ND	ND	ND	ND
48S8-7	11/21/02	ND	ND	ND	ND	. ND
4887-7	11/21/02	ND	ND	ND	ND	ND

DETECTION LIMITS	5	5	5	5	5
ND INDICATES NOT DETECTED AT I	LISTED DETECTION L	IMITS			

ANALYSES PERFORMED BY: H. Atkinson / W. Robb



Mid-America Environmental Project #021107W1

IOWA METHODS OA1 ANALYSES OF WATERS

SAMPLE NUMBER	DATE ANALYZED	GASOLINE (ug/L)	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYLBENZ (ug/L)	XYLENES (ug/L)	SURROGATE (%REC)
METHOD BLANK	11/15/02	ND	ND	ND	ND	ND	ND	109.8%
METHOD BLANK	11/18/02	ND	ND	ND	ND	ND	ND	130.9%
METHOD BLANK	11/19/02	ND	ND	ND	ND	ND	ND	92.9%
METHOD BLANK	11/21/02	ND	ND	22.2	ND	ND	ND	93.1%
B45CS2W	11/15/02	ND	ND	ND	ND	ND	ND	98.6%
B45CS1DW	11/15/02	ND	ND	ND	ND	ND	ND	98.7%
B48S1W	11/15/02	ND	ND	569	ND	ND	ND	96.6%
B48S2W	11/15/02	1,160	9.90	921	ND	24.0	ND	93.9%
B48S3W	11/15/02	1,746	ND	14.6	16.1	ND	ND	83.2%
B45S2W	11/18/02	15,310	ND	29.4	54.8	ND	ND	96.5%
B45S3W	11/18/02	2,760	ND	23.5	18.6	ND	ND	101.9%
B45S4W	11/18/02	ND	ND	ND	ND	ND	ND	108.4%
B45S4W DUP	11/18/02	ND	ND	ND	ND	ND	ND	89.5%
B45S1DW	11/18/02	ND	ND	ND	ND	ND	ND	105.9%
B45S6W	11/18/02	ND	ND	ND	ND	ND	ND	104.3%
B45S8W	11/19/02	268,300	ND	ND	ND	ND	ND	92.9%
B45S5DW	11/19/02	ND	ND	ND	ND	ND	ND	96.6%
B45S7W	11/19/02	41,410	ND	6.70	10.1	ND	8.40	109.2%
B45S9W	11/19/02	10,820	ND	ND	ND	ND	ND	109.2%
B45S10W	11/19/02	17,440	ND	ND	11.6	ND	ND	105.2%
B48S6W	11/19/02	ND	ND	ND	ND	ND	ND	98.8%
B48S5W	11/19/02	301,200	ND	24.8	36.0	5.30	17.1	102.4%
B48\$8W	11/21/02	ND	ND	22.2	ND	ND	ND	90.4%
B48S7W	11/21/02	207,200	ND	25.7	59.6	ND	23.6	99.0%

DETECTION LIMITS	1,000	5.0	5.0	5.0	5.0	5.0	50%-135%
ND INDICATES NOT DETECTED AT LIS	STED DETECTION LIN	IITS					

ANALYSES PERFORMED BY: W. Robb



Mid-America Environmental Project #021107W1

IOWA METHODS OA2 ANALYSES OF WATERS

METHOD BLANK 11/18/02 ND ND ND ND ND METHOD BLANK 11/19/02 ND ND ND ND ND ND	SAMPLE NUMBER	DATE ANALYZED	STODDARD SOLVENT (ug/L)	KEROSENE (ug/L)	DIESEL #1 (ug/L)	DIESEL #2 (ug/L)	MOTOR OIL (ug/L)
METHOD BLANK 11/19/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	METHOD BLANK		ND	ND			
#REFI 11/21/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	METHOD BLANK	11/18/02	ND	ND	ND	ND	ND
B45CS2W 11/15/02 ND ND ND ND ND ND ND ND B45CS1DW 11/15/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	METHOD BLANK	11/19/02	ND	ND	ND	ND	ND
B45CS1DW 11/15/02 ND ND ND ND ND ND ND ND B48S1W 11/15/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	#REF!	11/21/02	ND	ND	ND	ND	ND
B4881W 11/15/02 ND ND ND ND ND ND ND ND B4882W 11/15/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	B45CS2W	11/15/02	ND	ND	ND	ND	ND
B4882W	B45CS1DW	11/15/02	ND	ND	ND	ND	ND
11/15/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	B48S1W	11/15/02	ND	ND	ND	ND	ND
B45S2W 11/18/02 ND ND ND ND ND ND ND ND B45S3W 11/18/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	B48S2W	11/15/02	ND	ND	ND	ND	ND
845S3W 11/18/02 ND	B48\$3W	11/15/02	ND	ND	ND	ND	ND
845S4W 11/18/02 ND	B45S2W	11/18/02	ND	ND	ND	ND	ND
845S4W DUP 11/18/02 ND	345S3W	11/18/02	ND	ND	ND	ND	ND
11/18/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	345S4W	11/18/02	ND	ND	ND	ND	ND
845S6W 11/18/02 ND ND ND ND ND 845S8W 11/19/02 ND ND ND ND ND 845S5DW 11/19/02 ND ND ND ND ND ND 845S7W 11/19/02 ND ND ND ND ND ND 845S9W 11/19/02 ND ND ND ND ND ND 848S6W 11/19/02 ND ND ND ND ND ND 848S8W 11/21/02 ND ND ND ND ND ND	B45S4W DUP	11/18/02	ND	ND	ND	ND	ND
345S8W 11/19/02 ND ND ND ND ND ND ND ND S45S5DW 11/19/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	345S1DW	11/18/02	ND	ND	ND	ND	ND
845\$5DW 11/19/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	345S6W	11/18/02	ND	ND	ND	ND	ND
845\$7W 11/19/02 ND	345S8W	11/19/02	ND	ND	ND	ND	ND
845\$9W 11/19/02 ND	345S5DW	11/19/02	ND	ND	ND	ND	ND
345S10W 11/19/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	345S7W	11/19/02	ND	ND	ND	ND	ND
348S6W 11/19/02 ND	345S9W	11/19/02	ND	ND	ND	ND	ND
348S5W 11/19/02 ND ND ND ND ND ND ND ND ND ND ND ND ND	345S10W	11/19/02	ND	ND	ND	ND	ND
348S8W 11/21/02 ND ND ND ND ND	348S6W	11/19/02	ND	ND	ND	ND	ND
	348S5W	11/19/02	ND	ND	ND	ND	ND
348S7W 11/21/02 ND ND ND ND ND	348S8W	11/21/02	ND	ND	ND	ND	ND
	348S7W	11/21/02	ND	ND	ND	ND	ND

DETECTION LIMITS	1,000	1,000	1,000	1,000	1,000
ND INDICATES NOT DETECTED AT	LISTED DETECTION LIMIT	Ś			

ANALYSES PERFORMED BY: W. Robb



Mid-America Environmental Project #021107W1

IOWA METHODS OA2 ANALYSES OF WATERS

SAMPLE NUMBER	DATE	STODDARD SOLVENT (ug/L)	KEROSENE (ug/L)	DIESEL #1 (ug/L)	DIESEL #2 (ug/L)	MOTOR OIL (ug/L)
METHOD BLANK	11/7/02	ND	ND	ND	ND	ND
METHOD BLANK	11/8/02	ND	ND	ND	ND	ND
METHOD BLANK	11/11/02	ND	ND	ND	ND	ND
METHOD BLANK	11/12/02	ND	ND	ND	ND	ND
METHOD BLANK	11/13/02	ND	ND	ND	ND	ND
METHOD BLANK	11/14/02	ND	ND	ND	ND	ND
341S1W	11/7/02	ND	ND	ND	ND	ND
341S2W	11/7/02	ND	ND	ND	ND	ND
341N1W	11/8/02	ND	ND	ND	ND	ND
41S3DW	11/8/02	ND	ND	ND	ND	ND
34811W	11/11/02	ND	ND	ND	ND	ND
34812W	11/11/02	ND	ND	ND	ND	ND
844N1W	11/11/02	ND	ND	ND	ND	ND
844N1W DUP	11/11/02	ND	ND	ND	ND	ND
348N1W	11/11/02	ND	ND	ND	ND	ND
341E1W	11/12/02	ND	ND	ND	ND	ND
341S4W	11/13/02	ND	ND	ND	ND	ND
341E1D	11/13/02	ND	ND	ND	ND	ND
/W 18	11/14/02	ND	ND	ND	ND	ND
340E1W	11/14/02	ND	ND	ND	ND	ND
40E2W	11/14/02	ND	ND	ND	ND	ND
340S1W	11/14/02	ND	ND	ND	ND	ND
340S2W	11/14/02	ND	ND	ND ·	ND	ND
340W1W	11/14/02	ND	ND	ND	ND	ND

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DETECTION LIMITS	1,000	1,000	1,000	1,000	1,000
ND INDICATES NOT DETECTED AT	LISTED DETECTION LIMITS	3			

ANALYSES PERFORMED BY: W. Robb



Mid-America Environmental Project #021107W1

IOWA METHODS OA2 ANALYSES OF SOILS

SAMPLE NUMBER	DATE ANALYZED	STODDARD SOLVENT (mg/kg)	KEROSENE (mg/kg)	DIESEL #1 (mg/kg)	DIESEL #2 (mg/kg)	MOTOR OIL (mg/kg)
METHOD BLANK	11/7/02	ND	ND	ND	ND	ND
METHOD BLANK	11/8/02	ND	ND	ND	ND	ND
METHOD BLANK	11/11/02	ND	ND	ND	ND	ND
METHOD BLANK	11/12/02	ND	ND	ND	ND	ND
METHOD BLANK	11/13/02	ND	ND	ND	ND	ND
METHOD BLANK	11/14/02	ND	ND	ND	ND	ND
B41S1-6	11/7/02	ND	ND	ND	ND	ND
B41S1-6 DUP	11/7/02	ND	ND	ND	ND	ND
B41S2-4'	11/7/02	ND	ND	ND	ND	ND
B41S3D-4	11/7/02	ND	ND	ND	24	ND
B2W1-6'	11/8/02	ND	ND	ND	47	ND
B41N1-8'	11/8/02	ND	ND	ND	ND	ND
B44N1-9	11/8/02	ND	ND	ND	ND	ND
B48i1-7	11/11/02	ND	ND	ND	ND	ND
34812-6	11/11/02	ND	ND	ND	ND	ND
B48N1-9	11/11/02	ND	ND	ND	ND	ND
B41E1-10	11/12/02	ND	ND	ND	ND	ND
341S4-6	11/13/02	ND	ND	ND	ND	ND
340E1-6	11/14/02	ND	ND	ND	ND	ND
340E2-6	11/14/02	ND	ND	ND	ND	ND
340S1 <i>-</i> 6	11/14/02	ND	ND	ND	ND	ND
340W1-6	11/14/02	ND	ND	ND	ND	ND
340S2-6	11/14/02	ND	ND	ND	ND	ND

DETECTION LIMITS	5	5	5	5	5
NO INDICATED NOT DETECTED AT	LIGHTED DETECTION I	LUTO			
ND INDICATES NOT DETECTED AT	LISTED DETECTION LI	MITS			

ANALYSES PERFORMED BY: H. Atkinson



Mid-America Environmental Project #021107W1

VOLATILE HALOGENATED AND AROM Sample ID	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	Data Reported in ug/t
Date	11/7/02	11/8/02	11/11/02	11/12/02	11/13/02	11/14/02	
DICHLORODIFLUOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CHLOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
VINYL CHLORIDE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
BROMOMETHANE	<10	<5.0	<5.0	<1.0	<1.0	<1.0	
CHLOROETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
TRICHLOROFLUOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1-DICHLORO ETHENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
METHYLENE CHLORIDE	<35	<25	<10	<1.0	<1.0	<21	
TRANS-1,2-DICHLORO ETHENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1-DICHLORO ETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CIS-1,2-DICHLORO ETHENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
2,2 DICHLOROPROPANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
BROMOCHLOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CHLOROFORM	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1,1-TRICHLORO ETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CARBON TETRACHLORIDE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1 DICHLOROPROPENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
BENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2 DICHLOROETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
TRICHLOROETHENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2 DICHLOROPROPANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
DIBROMOMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
BROMODICHLOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CIS -1,3 DICHLOROPROPENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
TOLUENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
TRANS-1,3-DICHLORO PROPENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1,2-TRICHLORO ETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
TETRACHLORO ETHENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,3 DICHLOROPROPANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
DIBROMOCHLOROMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2 DIBROMOMETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
CHLOROBENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1,1,2-TETRACHLORO ETHANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
ETHYLBENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
m&p-XYLENES	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
STYRENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
o-XYLENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
BROMOFORM ISOPROPYL BENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,1,2,2-TETRACHLORO ETHANE	<5.0 - 5.0	<5.0	<5.0 -5.0	<1.0	<1.0	<1.0	
BROMOBENZENE	<5.0	<5.0	<5.0 -5.0	<1.0	<1.0	<1.0	
1.2.3 TRICHLOROPROPANE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
n-PROPYL BENZENE	<5.0	<5.0	<5.0 -5.0	<1.0	<1.0	<1.0	
2-CHLOROTOLUENE	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<1.0	<1.0 <1.0	<1.0	
1,3,5 TRIMETHYLBENZENE	<5.0	<5.0 <5.0	<5.0 <5.0	<1.0 <1.0	<1.0	<1.0	
4-CHLOROTOLUENE	<5.0 <5.0	<5.0 <5.0	<5.0	<1.0	<1.0	<1.0 <1.0	
tert-BUTYL BENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2,4 TRIMETHYLBENZENE	<5.0		<5.0	<1.0	<1.0	<1.0	
sec-BUTYLBENZENE	<5.0 <5.0	<5.0 <5.0	<5.0	<1.0	<1.0	<1.0	
1,3 DICHLOROBENZENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0 <1.0	
p-ISOPROPYLTOLUENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,4 DICHLOROBENZENE	< 5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
n-BUTYLBENZENE							
1.2 DICHLOROBENZENE	<5.0 <5.0	<5.0	<5.0 <5.0	<1.0 <1.0	<1.0 <1.0	<1.0	
1.2 DIBROMO 3 CHLOROPROPANE		<5.0				<1.0	
	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2,4 TRICHLOROBENZENE HEXACHLOROBUTADIENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
	<5.0	<5.0	<5.0 <5.0	<1.0	<1.0	<1.0	
NAPHTHALENE	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	
1,2,3 TRICHLOROBENZENE	<5.0	<5.0	<50	<1.0	<1.0	<1.0	
4-BROMOCHLOROBENZENE 1,4 - DICHLOROBUTANE	97.6% 96.6%	88.1% 83.5%	89.0% 91.9%	not added not added	118.2% 109.8%	107.1% 78.0%	



VOLATILE HALOGENATED AND AROM Sample ID	BLANK	B41S1W	B41S2W	B2W1W	B41N1W	B41S3DW	B211W	B44N1WB4	orted in ug/L 4N1W DUP
Date	11/7/02	11/7/02	11/7/02	11/8/02	11/8/02	11/8/02	11/11/02	11/11/02	11/11/02
DICHLORODIFLUOROMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CHLOROMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VINYL CHLORIDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	<5.0	<5.0
BROMOMETHANE	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CHLOROETHANE	<5.0	<5.0	<5.0	7.3	<5.0	<5.0	<5.0	<5.0	<5.0
TRICHLOROFLUOROMETHANE	<5.0	<5.0	<5.0	17	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-DICHLORO ETHENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
METHYLENE CHLORIDE	<35	<25	<25	<25	<25	<25	<5.0	<5.0	<5.0
TRANS-1,2-DICHLORO ETHENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-DICHLORO ETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CIS-1,2-DICHLORO ETHENE	<5.0	<5.0	<5.0	<5.0	<5.0	16	<5.0	<5.0	<5.0
2,2 DICHLOROPROPANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BROMOCHLOROMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CHLOROFORM	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-TRICHLORO ETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CARBON TETRACHLORIDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1.1 DICHLOROPROPENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BENZENE	<5.0	<5.0	<5.0	6.3	135	<5.0	<5.0	<5.0	<5.0
1,2 DICHLOROETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TRICHLOROETHENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2 DICHLOROPROPANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DIBROMOMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BROMODICHLOROMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0 <5.0	<5.0	<5.0 <5.0	<5.0 <5.0	<5.0
CIS -1,3 DICHLOROPROPENE	<5.0	<5.0	<5.0 <5.0	<5.0 <5.0	<5.0	<5.0	<5.0	<5.0 <5.0	<5.0 <5.0
TOLUENE	<5.0 <5.0	<5.0							
TRANS-1,3-DICHLORO PROPENE	<5.0	<5.0	<5.0	<5.0 -5.0	<5.0	<5.0	<5.0 -5.0	<5.0	<5.0
1,1,2-TRICHLORO ETHANE			<5.0	<5.0	<5.0	<5.0	<5.0 -5.0	<5.0 -5.0	<5.0
TETRACHLORO ETHENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 125	<5.0	<5.0	<5.0
<i>*</i>	<5.0	<5.0	<5.0	<5.0	<5.0		<5.0	<5.0	<5.0
1,3 DICHLOROPROPANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DIBROMOCHLOROMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2 DIBROMOMETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CHLOROBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1,2-TETRACHLORO ETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ETHYLBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
m&p-XYLENES	<5.0	<5.0	<5.0	<5.0	31	<5.0	<5.0	<5.0	<5.0
STYRENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o-XYLENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BROMOFORM	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ISOPROPYL BENZENE	<5.0	<5.0	<5.0	<5.0	24	<5.0	<5.0	<5.0	<5.0
1,1,2,2-TETRACHLORO ETHANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
BROMOBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,3 TRICHLOROPROPANE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-PROPYL BENZENE	<5.0	<5.0	<5.0	<5.0	117	<5.0	<5.0	<5.0	<5.0
2-CHLOROTOLUENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,3,5 TRIMETHYLBENZENE	<5.0	<5.0	<5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-CHLOROTOLUENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ert-BUTYL BENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4 TRIMETHYLBENZENE	<5.0	<5.0	<5.0	<5.0	13	<5.0	<5.0	<5.0	<5.0
sec-BUTYLBENZENE	<5.0	<5.0	<5.0	<5.0	41	<5.0	<5.0	<5.0	<5.0
,3 DICHLOROBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
-ISOPROPYLTOLUENE	<5.0	<5.0	<5.0	<5.0	68	<5.0	<5.0	<5.0	<5.0
.4 DICHLOROBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
-BUTYLBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
.2 DICHLOROBENZENE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2 DIBROMO 3 CHLOROPROPANE	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	
1,2,4 TRICHLOROBENZENE									<5.0 -5.0
	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HEXACHLOROBUTADIENE	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
NAPHTHALENE	<5.0	<5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
1,2.3 TRICHLOROBENZENE	<5.0	<5.0	<5.0	<5.0	<5 0	<5.0	<50	<50	<5 0
-BROMOCHLOROBENZENE ,4 - DICHLOROBUTANE	97.6% 96.6%	79.6% 92.2%	104.1% 83.5%	89.3% 74.0%	99.5% 89.5%	92.0% 83.9%	89.5% 99.8%	88.1% 94.0%	78.2% 87.0%



Mid-America Environmental Project #021107W1 VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8021) WATER ANALYSES Data Reported in u B4812W B48N1W Sample ID **B48I1W** B2N1W B2N3W B2N3W DUP B2N2W **B41E1W** B2N4W Date 11/11/02 11/11/02 11/11/02 11/11/02 11/12/02 11/12/02 11/12/02 11/12/02 11/13/02 DICHLORODIFLUOROMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 CHLOROMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 VINYL CHLORIDE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 **BROMOMETHANE** <5.0 <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 CHLOROETHANE <1.0 <5.0 <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 TRICHLOROFLUOROMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 < 5.0 <1.0 <1.0 <1.0 1,1-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 METHYLENE CHLORIDE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 TRANS-1,2-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 12 12 <1.0 1.7 <1.0 1.1-DICHLORO ETHANE <5.0 < 5.0 <50 < 5.0 <1.0 <5.0 <1.0 <1.0 <1.0 CIS-1,2-DICHLORO ETHENE 45 39 19 <5.0 1.2 <5.0 <5.0 <5.0 <1.0 2,2 DICHLOROPROPANE <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 BROMOCHLOROMETHANE **<50** <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 CHLOROFORM <5.0 <5.0 <5.0 < 5.0 <1.0 <5.0 <10 <10 <1.0 1,1,1-TRICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 CARBON TETRACHLORIDE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 1.1 DICHLOROPROPENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 BENZENE < 5.0 <5.0 <5.0 < 5.0 <1.0 <5 O <1.0 <1.0 <1.0 1,2 DICHLOROETHANE <5.0 <5.0 <5.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 TRICHLOROETHENE 2.5 <5.0 <5.0 <5.0 <5.0 11 10 1.2 <1.0 1.2 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 DIBROMOMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 **BROMODICHLOROMETHANE** < 5.0 < 5.0 < 5.0 <50 <10 <5 O <1.0 <1.0 <1.0 **CIS-1,3 DICHLOROPROPENE** <5.0 <5.0 <1.0 <5.0 < 5.0 <5.0 <1.0 <10 <1.0 TOLUENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 TRANS-1,3-DICHLORO PROPENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 1.1.2-TRICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 TETRACHLORO ETHENE 23 21 < 5.0 <5.0 < 5.0 <50 <10 <1 0 1,3 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 DIBROMOCHLOROMETHANE <5.0 <5.0 <5.0 <1.0 <1.0 1.2 DIBROMOMETHANE <5.0 <50 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 CHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 1,1,1,2-TETRACHLORO ETHANE <5.0 <5.0 <1.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 **ETHYLBENZENE** <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 m&p-XYLENES <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 STYRENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <10 o-XYLENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 **BROMOFORM** <5.0 <5.0 <1.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 ISOPROPYL BENZENE <1.0 <5.0 <1.0 <1.0 <1.0 1.1.2.2-TETRACHLORO ETHANE <5.0 <50 <1.0 <5.0 <5.0 <5.0 **BROMOBENZENE** < 5.0 < 5.0 <5.0 <5.0 <1.0 <50 <1.0 <1.0 <1.0 1,2,3 TRICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 n-PROPYL BENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 2-CHLOROTOLUENE <5.0 <50 <5.0 <5.0 <1.0 < 5.0 <1.0 <1.0 1,3,5 TRIMETHYLBENZENE <5.0 < 5.0 <5.0 <5.0 <1.0 < 5.0 < 1.0 <1.0 <1.0 4-CHLOROTOLUENE <5.0 <5.0 < 5.0 <5.0 <1.0 <5.0 <1.0 <1.0 < 1.0 tert-BUTYL BENZENE <5.0 <1.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 1,2,4 TRIMETHYLBENZENE <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 sec-BUTYLBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 1,3 DICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 < 5.0 <10 <1.0 <10 p-ISOPROPYLTOLUENE <5.0 <5.0 <1.0 < 5.0 <5.0 <5.0 <1.0 <1.0 <1.0 1,4 DICHLOROBENZENE <5.0 <5.0 < 5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 n-BUTYLBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 1,2 DICHLOROBENZENE <5.0 <50 <5.0 <5.0 <10 <5.0 <1.0 <1.0 <1.0 1,2 DIBROMO 3 CHLOROPROPANE <5.0 <5.0 <50 < 5.0 <1.0 < 5.0 <1.0 <1.0 <10 1,2,4 TRICHLOROBENZENE <5.0 <5.0 <50 < 5.0 <1.0 <5.0 <1.0 <1.0 <10 HEXACHLOROBUTADIENE <5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 NAPHTHALENE <5.0 <5.0 <5.0 <5.0 <1.0 <50 <1.0 <10 <1.0 1,2,3 TRICHLOROBENZENE <5.0 <5.0 < 5.0 < 5.0 <10 <50 <1.0 <10 4-BROMOCHLOROBENZENE 82.1% 99.9% 85.8% 76.4% 62.3% 108.8% 94.0% 4% 84.9% 1,4 - DICHLOROBUTANE 96.1% 112.6% 103.0% 87.4% 55.1% 106.4% 75.9% 80.9% 79.6%



OLATILE HALOGENATED AND AROM Sample ID	B41S4W	B41E1D	B2N5W	MW 18	B40E1W	B40E2W	B40S1W	B40S2W	orted in ug B40W1
Date	11/13/02	11/13/02	11/13/02	11/14/02	11/14/02	11/14/02	11/14/02	11/14/02	11/14/
DICHLORODIFLUOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
CHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
INYL CHLORIDE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
BROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
HLOROETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
RICHLOROFLUOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
.1-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
METHYLENE CHLORIDE	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
RANS-1,2-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
,1-DICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
CIS-1,2-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
,2 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
BROMOCHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
CHLOROFORM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ζ.
,1,1-TRICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
CARBON TETRACHLORIDE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
.1 DICHLOROPROPENE									
ENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< '
	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	< 1
,2 DICHLOROETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<
RICHLOROETHENE	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1
,2 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
HBROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
ROMODICHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
IS -1,3 DICHLOROPROPENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
OLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
RANS-1,3-DICHLORO PROPENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
.2-TRICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
TRACHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
3 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
IBROMOCHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
2 DIBROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
HLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
1,1,2-TETRACHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
THYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
&p-XYLENES	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
TYRENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
XYLENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
ROMOFORM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
OPROPYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
1,2,2-TETRACHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
ROMOBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<t.< td=""></t.<>
2,3 TRICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
PROPYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
CHLOROTOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
3,5 TRIMETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
CHLOROTOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
rt-BUTYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
2,4 TRIMETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.
oc-BUTYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
3 DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0					<1 -1
SOPROPYLTOLUENE					<1.0	<1.0	<1.0	<1.0	<1
DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
BUTYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
2 DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
2 DIBROMO 3 CHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
2,4 TRICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
EXACHLOROBUTADIENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1
APHTHALENE	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1
2,3 TRICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<10	<1.0	<1
BROMOCHLOROBENZENE	96.4%	87.8%	90.9%	89.8%	81.6%	95.5%	93.5%	92.9%	60.1
DI IOMODI ILOI IODEIXLEIXE	JU.4 /0	07.078	30.376	00.070	01.070	33.3/0	JJ.J/6	JE.J.0	00.1



Mid-America Environmental Project #021107W1
VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8021) SOIL ANALYSES Data Reported in ug/ B2N1-8 B48[1-7 84812-6 B48N1-9 B2N2-8 B41E1-10 B2N4-6 B41S4-6 Sample ID 11/11/02 11/11/02 11/11/02 11/11/02 11/12/02 11/12/02 11/12/02 11/13/02 11/13/02 DICHLORODIFLUOROMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 CHLOROMETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 VINYL CHLORIDE <5.0 <1.0 <5.0 <5.0 < 5.0 <1.0 <1.0 <10 <10 <1.0 **BROMOMETHANE** <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 **CHLOROETHANE** <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 TRICHLOROFLUOROMETHANE <5.0 <5 O <5.0 <5.0 <1 O <1.0 <1.0 <1.0 <1.0 1.1-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 METHYLENE CHLORIDE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 TRANS-1,2-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,1-DICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 CIS-1,2-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 2,2 DICHLOROPROPANE <5.0 <5.0 <5.0 <1.0 <5.0 <1.0 <1.0 <1.0 <1.0 **BROMOCHLOROMETHANE** <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 CHLOROFORM <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,1,1-TRICHLORO ETHANE < 5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 CARBON TETRACHLORIDE <5.0 <5.0 <1.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 1,1 DICHLOROPROPENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 BENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1.2 DICHLOROETHANE <5.0 <50 <50 <50 <10 <1.0 <1.0 <1.0 <1.0 TRICHLOROETHENE <5.0 <5.0 <5.0 <5.0 < 1.0 <1.0 <1.0 <1.0 <1.0 1,2 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 DIBROMOMETHANE <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 **BROMODICHLOROMETHANE** <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 **CIS-1.3 DICHLOROPROPENE** <5.0 <5.0 <5.0 <5.0 <1.0 <10 <1.0 c1.0 <1 O TOLUENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 TRANS-1,3-DICHLORO PROPENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,1,2-TRICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 TETRACHLORO ETHENE 1.9 <5.0 <5.0 <5.0 <5.0 <10 <1.0 1.4 1,3 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 DIBROMOCHLOROMETHANE <1.0 <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 ₹1.0 1.2 DIBROMOMETHANE <5.0 <5 O <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 CHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,1,1,2-TETRACHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 **ETHYLBENZENE** < 5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 m&p-XYLENES <5.0 <5.0 < 5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 STYRENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 o-XYLENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 **BROMOFORM** <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 ISOPROPYL BENZENE <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,1,2,2-TETRACHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 BROMOBENZENE <5.0 <5.0 <50 <50 <1.0 <1.0 <1.0 <1.0 <1.0 1,2,3 TRICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 n-PROPYL BENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 2-CHLOROTOLUENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1.3.5 TRIMETHYLBENZENE <5.0 <5.0 <50 <50 <1.0 <1.0 <1.0 <1.0 <1.0 4-CHLOROTOLUENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <10 tert-BUTYL BENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1.2.4 TRIMETHYLBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 sec-BUTYLBENZENE <5.0 <5.0 <5.0 <50 <10 <1.0 <1.0 <1.0 <1.0 1,3 DICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 p-ISOPROPYLTOLUENE <5.0 < 5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,4 DICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 n-BUTYLBENZENE <5.0 <5.0 <50 <50 <1.0 <1.0 <1.0 <1.0 <1.0 1,2 DICHLOROBENZENE <5.0 < 5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 <1.0 1,2 DIBROMO 3 CHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 <1.0 < 1.0 1,2,4 TRICHLOROBENZENE <5.0 <5.0 ذ1.0 <1.0 <1.0 <1.0 HEXACHLOROBUTADIENE < 5.0 <5.0 <5.0 <5.0 <1.0 <1.0 <1.0 NAPHTHALENE <5.0 <50 <50 <5.0 <10 <10 <1.0 <10 <1.0 1,2,3 TRICHLOROBENZENE <5.0 < 5.0 <5.0 < 5.0 <1.0 <1.0 <1.0 <1.0 4-BROMOCHLOROBENZENE 81.2% 73.7% 72.8% 108.1% 114.3% 93.3% 62.5% 121.8% 1,4 - DICHLOROBUTANE 37.2% 96.4% 57.1% 118.3% 111.5% 108.7% 78.1% 112.9% 103.6%



MACTEC Project # 510200 Boeing Tract 1 South St. Louis, MO

rica Environmental Project #021107W1 VOLATILE HALOGENATED AND AROMATIC HYDROCARBONS (EPA Method 8021) SOIL ANALYSES Data Reported in ug/Kg B41S2-4 B41S1-6 DUP Sample ID BLANK B41S1-6 B41S3D-4 B2W1-6' B41N1-8 B211-81 B44N1-9 11/7/02 11/7/02 11/7/02 11/8/02 11/8/02 11/8/02 Date 11/7/02 11/7/02 11/8/02 DICHLORODIFLUOROMETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 CHLOROMETHANE < 5.0 < 5.0 <5.0 < 5.0 < 5.0 < 5.0 <5.0 < 5.0 <5.0 VINYL CHLORIDE < 5.0 <5.0 <5.0 <5.0 <5.0 <5.0 < 5.0 <5.0 <5.0 **BROMOMETHANE** <10 <10 <5.0 <5.0 <5.0 <5.0 CHLOROETHANE <5.0 <5.0 <5.0 <5.0 <5.0 6.7 <5.0 <5.0 <5.0 TRICHLOROFLUOROMETHANE <5.0 <50 <50 < 5.0 <50 < 5.0 <5.0 <5.0 <5.0 1,1-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 METHYLENE CHLORIDE <35 <30 <22 <17 <50 <25 <25 <25 <35 < 5.0 TRANS-1,2-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1.1-DICHLORO ETHANE <5.0 <50 < 5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 CIS-1,2-DICHLORO ETHENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 2,2 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 BROMOCHLOROMETHANE <5.0 <5.0 <5.0 <5.0 CHI OROFORM <5.0 25 D <50 <5 O <5.0 <50 <5 O <5.0 <50 1.1.1-TRICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <50 < 5.0 < 5.0 < 5.0 CARBON TETRACHLORIDE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,1 DICHLOROPROPENE <5.0 < 5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 BENZENE <5.0 <5.0 <5.0 <5.0 18 21 186 <5.0 41 1,2 DICHLOROETHANE <5.0 <50 <5 O <5 O <5.0 <5 O <5.0 <5 O <5.0 TRICHLOROETHENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,2 DICHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 DIBROMOMETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 BROMODICHLOROMETHANE < 5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 CIS -1,3 DICHLOROPROPENE <5.0 <5.0 < 5.0 <5.0 <5.0 <5.0 <5.0 < 5.0 <5.0 TOLUENE <5.0 26 <5.0 <5.0 <5.0 <5.0 6.0 <5.0 <5.0 TRANS-1,3-DICHLORO PROPENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 TRICHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 CHLORO ETHENE < 5.0 <5.0 <5.0 < 5.0 < 5.0 < 5.0 < 5.0 <5.0 < 5.0 1,3 DICHLOROPROPANE <5.0 <5.0 <5.0 < 5.0 < 5.0 < 5.0 < 5.0 <5.0 <5.0 DIBROMOCHLOROMETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,2 DIBROMOMETHANE <5.0 <5.0 <5.0 <5.0 <5.0 CHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,1,1,2-TETRACHLORO ETHANE <5.0 < 5.0 <5.0 <5.0 <5 O <5 O <5.0 <50 <50 **ETHYLBENZENE** 10 29 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 27 41 21 43 m&p-XYLENES <5.0 <5.0 <5.0 <5.0 STYRENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 n-XYLENE <5.0 <5.0 <5.0 <5.0 <5.0 12 <5.0 <5.0 <5.0 **BROMOFORM** <5.0 <5.0 < 5.0 <5.0 <5.0 <5.0 <50 <50 <5.0 ISOPROPYL BENZENE <5.0 <5.0 <5.0 <5.0 29 31 11 292 <5.0 1,1,2,2-TETRACHLORO ETHANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 BROMOBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1.2.3 TRICHLOROPROPANE <50 <5.0 <5 O <5.0 <5.0 <5 O <50 <5 O <50 n-PROPYL BENZENE 30 13 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 2-CHLOROTOLUENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 < 5.0 <5.0 <5.0 1,3,5 TRIMETHYLBENZENE <5.0 <5.0 <5.0 <5.0 192 36 <5.0 66 <5.0 4-CHLOROTOLUENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 tert-BUTYL BENZENE 35 73 <5.0 <5.0 <5.0 < 5.0 <5.0 < 5.0 <5.0 1,2,4 TRIMETHYLBENZENE 51 <5.0 <5.0 <5.0 < 5.0 <5.0 <5.0 <5.0 <5.0 sec-BUTYLBENZENE 75 7.2 127 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,3 DICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 p-ISOPROPYLTOLUENE <5.0 <5.0 <5.0 116 36 268 7.1 <5.0 <5.0 1.4 DICHLOROBENZENE <5.0 <5.0 <50 <5.0 <5.0 <5.0 <50 < 5.0 <5.0 n-BUTYLBENZENE 80 14 <5.0 <5.0 < 5.0 < 5.0 <5.0 <5.0 <5.0 1,2 DICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,2 DIBROMO 3 CHLOROPROPANE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 1,2,4 TRICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 < 5.0 <5.0 <5.0 <5.0 **HEXACHLOROBUTADIENE** <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 **HTHALENE** <5.0 < 5.0 < 5.0 <50 <5.0 <5.0 <50 <5.0 <50 TRICHLOROBENZENE <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 <5.0 4-BROMOCHLOROBENZENE 97.6% 85.5% 102.9% 105.2% 106.1% 121.4% 119 6% 107.0% 104.3% 1.4 - DICHLOROBUTANE 96.6% 81.9% 94.7% 71.8% 81.0% 84.8% 86.2% 83.5% 114.4%



MACTEC Project # 510200 Boeing Tract 1 South St. Louis, MO

Mid-America Environmental Project #021107W1

Sample ID Date	B2N5-7' 11/13/02	B40E1-6' 11/14/02	B40E2-6' 11/14/02	B40S1-6' 11/14/02	B40W1-6' 11/14/02	840S2-6' 11/14/02	
DICHLORODIFLUOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
VINYL CHLORIDE	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0	<1.0	
BROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CHLOROETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TRICHLOROFLUOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
METHYLENE CHLORIDE	<1.0	<15	<15	<15	<15	<15	
TRANS-1,2-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-DICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CIS-1,2-DICHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
2,2 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
BROMOCHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CHLOROFORM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,1-TRICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CARBON TETRACHLORIDE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1 DICHLOROPROPENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2 DICHLOROETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TRICHLOROETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
DIBROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
BROMODICHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
CIS -1,3 DICHLOROPROPENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TRANS-1,3-DICHLORO PROPENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,2-TRICHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TETRACHLORO ETHENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,3 DICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
DIBROMOCHLOROMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2 DIBROMOMETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	(
CHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,1,2-TETRACHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
ETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
m&p-XYLENES	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
STYRENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
-XYLENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
BROMOFORM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
SOPROPYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,2,2-TETRACHLORO ETHANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
BROMOBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2,3 TRICHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1-PROPYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
2-CHLOROTOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,3,5 TRIMETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
-CHLOROTOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
ert-BUTYL BENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2,4 TRIMETHYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
sec-BUTYLBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
,3 DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	•
-ISOPROPYLTOLUENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
,4 DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	•
I-BUTYLBENZENE	. <1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
,2 DICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
,2 DIBROMO 3 CHLOROPROPANE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
,2,4 TRICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
HEXACHLOROBUTADIENE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
NAPHTHALENE	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0	
,2,3 TRICHLOROBENZENE	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0 <1.0	
12,0 .1101120110001120114	< 1.U	£1.0	×1.0	<1.0	<1.U	<1.0	
-BROMOCHLOROBENZENE	118.7%	117.4%	95.6%	109.1%	98.4%	116.8%	



Mid-America Environmental Project #021107W1

COMPOUND	MATRIX SPIKE	CONC.	PERCENT	MATRIX SPIKE DUP	CONC.	PERCENT	%RSD
	CONC. SPIKED	RECOVERED	RECOVERY	CONC. SPIKED	RECOVERED	RECOVERY	701100
DICHLORODIFLUOROMETHANE	25	23.3	93.2%	25	23.2	92.8%	0.4%
CHLOROMETHANE	25	31.0	123.9%	25	30.3	121.2%	2.2%
VINYL CHLORIDE	25	25.3	101.2%	25	24.9	99.6%	1.6%
BROMOMETHANE	25	27.9	111.6%	25	26.8	107.2%	4.0%
CHLOROETHANE	25	27.9	111.6%	25	26.3	105.2%	5.9%
(RICHLOROFLUOROMETHANE	25	27.9	111.6%	25	26.0	104.0%	7.1%
,1-DICHLORO ETHENE	25	26.7	106.8%	25	27.0	107.9%	1.0%
METHYLENE CHLORIDE	25	44.4	177.6%	25	40.4	161.6%	9.4%
RANS-1,2-DICHLORO ETHENE	25	28.0	111.8%	25	27.1	108.4%	3.1%
I,1-DICHLORO ETHANE	25	27.4	109.6%	25	27.7	110.8%	1.1%
CIS-1,2-DICHLORO ETHENE	25	27.9	111.6%	25	29.3	117.2%	4.9%
BROMOCHLOROMETHANE	25	27.9	111.6%	25	29.1	116.4%	4.2%
CHLOROFORM	25	28.9	115.6%	25	29.7	118.8%	2.79
,2 DICHLOROPROPANE	25	20.3	81.2%	25	21.6	86.4%	6.29
1,2 DICHLOROETHANE	25	28.7	114.8%	25	29.2	116.8%	1.79
1,1,1-TRICHLORO ETHANE	25	25.9	103.6%	25	26.4	105.6%	1.9%
1,1 DICHLOROPROPENE	25	28.3	113.2%	25	28.5	114.0%	0.79
CARBON TETRACHLORIDE	25	28.6	114.4%	25	28.7	114.8%	0.3%
BENZENE	25	25.8	103.2%	25	26.3	105.2%	1.99
DIBROMOMETHANE	25 ·	28.6	114.4%	25	29.3	117.2%	2.49
1,2 DICHLOROPROPANE	25	28.1	112.4%	25	30.1	120.4%	6.99
TRICHLOROETHENE	25	28.0	112.0%	25	29.0	115.8%	3.49
BROMODICHLOROMETHANE	25	26.8	107.1%	25	26.5	106.0%	1.19
CIS -1,3 DICHLOROPROPENE	25	28.2	112.8%	25	28.1	112.4%	0.49
TOLUENE	25	21.6	86.4%	25	21.4	85.6%	0.99
TRANS-1,3-DICHLORO PROPENE	25	24.5	98.0%	25	25.1	100.4%	2.49
1,1,2-TRICHLORO ETHANE	25	27.7	110.8%	25	28.8	115.2%	3.99
1,3 DICHLOROPROPANE	25	28.1	112.4%	25	29.5	118.0%	4.9
DIBROMOCHLOROMETHANE	25	27.9	111.6%	25	29.6	118.4%	5.9
1,2 DIBROMOMETHANE	25	27.2	108.8%	25	29.1	116.4%	6.79
TETRACHLORO ETHENE	25	28.1	112.4%	25	28.4	113.6%	1.1
1,1,1,2-TETRACHLORO ETHANE	25	30.0	120.0%	25	29.1	116.4%	3.0
CHLOROBENZENE	25	22.5	90.0%	25	25.8	103,2%	13.7



Mid-America Environmental Project #021107W1

COMPOUND	MATRIX SPIKE CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	MATRIX SPIKE DUP CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	%RSD
ETHYLBENZENE	25	25.8	103.2%	25	26.2	104.8%	1.5%
m&p-XYLENES	50	48.1	96.2%	50	48.7	97.4%	1.2%
STYRENE	25	27.1	108.4%	25	27.4	109.6%	1.1%
o-XYLENE	25	24.5	98.0%	25	23.0	91.8%	6.5%
BROMOFORM	25	28.4	113.6%	25	29.1	116.4%	2.4%
ISOPROPYL BENZENE	25	28.3	113.2%	25	28.6	114.4%	1.1%
1,1,2,2-TETRACHLORO ETHANE	25	28.0	112.0%	25	29.6	118.4%	5.6%
1,2,3 TRICHLOROPROPANE	25	27.7	110.8%	25	28.1	112.4%	1.4%
BROMOBENZENE	25	27.4	109.6%	25	27.1	108.4%	1.1%
n-PROPYL BENZENE	25	26.0	104.0%	25	25.3	101.2%	2.7%
2-CHLOROTOLUENE	25	27.5	110.0%	25	27.9	111.6%	1.4%
1,3,5 TRIMETHYLBENZENE	25	28.6	114.4%	25	28.3	113.2%	1.1%
4-CHLOROTOLUENE	25	25.0	100.0%	25	25.8	103.2%	3.1%
tert-BUTYL BENZENE	25	27.8	111.2%	25	28.4	113.6%	2.1%
1,2,4 TRIMETHYLBENZENE	25	26.6	106.4%	25	26.9	107.6%	1.1%
sec-BUTYLBENZENE	25	27.5	110.0%	25	27.3	109.2%	0.7%
1,3 DICHLOROBENZENE	25	27.1	108.4%	25	26.5	106.0%	2.2%
p-ISOPROPYLTOLUENE	25	30.3	121.2%	25	30.1	120.4%	0.7%
1,4 DICHLOROBENZENE	25	24.4	97.6%	25	24.8	99.2%	1.6%
n-BUTYLBENZENE	25	28.3	113.2%	25	27.6	110.4%	2.5%
1,2 DICHLOROBENZENE	25	28.8	115.2%	25	27.8	111.2%	3.5%
1,2 DIBROMO 3 CHLOROPROPANE	25	25.1	100.4%	25	26.3	105.2%	4.7%
1,2,4 TRICHLOROBENZENE	25	23.1	92.4%	25	23.3	93.2%	0.9%
HEXACHLOROBUTADIENE	25	30.5	122.0%	25	31.1	124.4%	1.9%
NAPHTHALENE	25	22.1	88.4%	25	24.2	96.8%	9.1%
1,2,3 TRICHLOROBENZENE	25	22.2	88.8%	25	20.9	83.6%	6.0%

ANALYSES PERFORMED BY: H. Atkinson / W. Robb





Mid-America Environmental Project #021107W1

COMPOUND	MATRIX SPIKE CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	MATRIX SPIKE DUP CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	%RSD
DICHLORODIFLUOROMETHANE	l 25	23.1	92.4%	25	22.6	90.4%	2.2%
CHLOROMETHANE	25	30.5	122.0%	25	30.6	122.4%	0.3%
VINYL CHLORIDE	25	26.6	106.4%	25	26.4	105.6%	0.8%
BROMOMETHANE	25	22.9	91.6%	25	21.8	87.2%	4.9%
CHLOROETHANE	25	27.9	111.6%	25	26.4	105.6%	5.5%
TRICHLOROFLUOROMETHANE	25	25.5	102.0%	25	24.0	95.9%	6.1%
1,1-DICHLORO ETHENE	25	26.4	105.6%	25	25.5	102.0%	3.5%
METHYLENE CHLORIDE	25	62.3	249.2%	25	50.1	200.4%	21.7%
TRANS-1,2-DICHLORO ETHENE	25	28.7	114.8%	25	27.9	111.6%	2.8%
1,1-DICHLORO ETHANE	25	29.4	117.6%	25	27.5	110.0%	6.7%
CIS-1,2-DICHLORO ETHENE	25	30.5	122.0%	25	28.8	115.2%	5.7%
BROMOCHLOROMETHANE	25	30.8	123.2%	25	28.0	112.0%	9.5%
CHLOROFORM	25	30.5	122.0%	25	28.1	112.4%	8.2%
2,2 DICHLOROPROPANE	25	26.4	105.6%	25	21.1	84.4%	22.3%
1,2 DICHLOROETHANE	25	29.7	118.8%	25	27.8	111.2%	6.6%
1,1,1-TRICHLORO ETHANE	25	27.3	109.2%	25	27.1	108.4%	0.7%
1,1 DICHLOROPROPENE	25	27.1	108.4%	25	27.9	111.6%	2.9%
CARBON TETRACHLORIDE	25	34.1	136.4%	25	27.8	111.2%	20.4%
BENZENE	25	25.8	103.2%	25	25.9	103.6%	0.4%
DIBROMOMETHANE	25	29.7	118.8%	25	27.1	108.4%	9.2%
1,2 DICHLOROPROPANE	25	30.7	122.8%	25	29.4	117.6%	4.3%
TRICHLOROETHENE	25	27.5	110.0%	25	29.3	117.2%	6.3%
BROMODICHLOROMETHANE	25	31.7	126.8%	25	30.7	122.8%	3.2%
CIS -1,3 DICHLOROPROPENE	25	25.6	102.4%	25	24.9	99.6%	2.8%
TOLUENE	25	22.8	91.2%	25	22.2	88.8%	2.7%
TRANS-1,3-DICHLORO PROPENE	25	17.4	69.6%	25	19.8	79.2%	12.9%
1,1,2-TRICHLORO ETHANE	25	29.7	118.8%	25	28.5	114.0%	4.1%
1,3 DICHLOROPROPANE	25	28.2	112.8%	25	28.5	114.0%	1.1%
DIBROMOCHLOROMETHANE	25	29.1	116.4%	25	29.5	118.0%	1.4%
1,2 DIBROMOMETHANE	25	26.3	105.2%	25	28.1	112.4%	6.6%
TETRACHLORO ETHENE	25	29,3	117.2%	25	29.8	119.2%	1.7%
1,1,1,2-TETRACHLORO ETHANE	25	30,8	123.2%	25	28.8	115.2%	6.7%
CHLOROBENZENE	25	26.9	107.6%	25	26.1	104.4%	3.0%



Mid-America Environmental Project #021107W1

COMPOUND	MATRIX SPIKE CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	MATRIX SPIKE DUP CONC. SPIKED	CONC. RECOVERED	PERCENT RECOVERY	%RSD
ETHYLBENZENE	25	26.9	107.6%	25	25.5	102.0%	5.3%
m&p-XYLENES	50	49.8	99.6%	50	47.6	95.2%	4.5%
STYRENE	25	27.2	108.8%	25	26.0	103.8%	4.7%
o-XYLENE	25	29.2	116.8%	25	24.9	99.6%	15.9%
BROMOFORM	25	27.8	111.2%	25	29.0	116.0%	4.2%
ISOPROPYL BENZENE	25	29.2	116.8%	25	27.3	109.2%	6.7%
1,1,2,2-TETRACHLORO ETHANE	25	27.1	108.4%	25	27.3	109.2%	0.7%
1,2,3 TRICHLOROPROPANE	25	25.9	103.6%	25	27.3	109.2%	5.3%
BROMOBENZENE	25	29.1	116.4%	25	30.3	121.2%	4.0%
n-PROPYL BENZENE	25	28.6	114.4%	25	24.7	98.8%	14.6%
2-CHLOROTOLUENE	25	28.9	115.6%	25	29.7	118.8%	2.7%
1,3,5 TRIMETHYLBENZENE	25	27.3	109.2%	25	27.2	108.8%	0.4%
4-CHLOROTOLUENE	25	28.2	112.8%	25	28.7	114.8%	1.8%
tert-BUTYL BENZENE	25	28.0	111.9%	25	27.1	108.4%	3.2%
1,2,4 TRIMETHYLBENZENE	25	27.1	108.4%	25	27.9	111.6%	2.9%
sec-BUTYLBENZENE	25	29.0	116.0%	25	29.6	118.4%	2.0%
1,3 DICHLOROBENZENE	25	22.5	90.0%	25	23.0	92.0%	2.2%
p-ISOPROPYLTOLUENE	25	28.1	112.4%	25	27.2	108.8%	3.3%
1,4 DICHLOROBENZENE	25	27.4	109.6%	25	27.9	111.6%	1.8%
n-BUTYLBENZENE	25	28.4	113.6%	25	27.4	109.6%	3.6%
1,2 DICHLOROBENZENE	25	28.4	113.6%	25	28.2	112.8%	0.7%
1,2 DIBROMO 3 CHLOROPROPANE	25	23.4	93.6%	25	25.8	103.2%	9.8%
1,2,4 TRICHLOROBENZENE	25	22.3	89.2%	25	24.6	98.4%	9.8%
HEXACHLOROBUTADIENE	25	30.9	123.6%	25	32.1	128.4%	3.8%
NAPHTHALENE	25	20.1	80.4%	25	17.7	70.8%	12.7%
1,2,3 TRICHLOROBENZENE	25	22.9	91.6%	25	25.7	102.8%	11.5%

ANALYSES PERFORMED BY: H. Atkinson / W. Robb





QA/QC REPORT - MS/MSD DATA

ANALYSIS DATE: 11/10/02

•	MATRIX SPIKE	(MS) / MATRIX :	SPIKE DUPLICA	TE (MSD) FOR W	ATERS		
SPK CONC (ug/L)	MS CONC (ug/L)	%REC MS	MSD CONC (ug/L)	%REC MSD	RPD	ACCEPTABLE RPD	ACCEPTABLE RECOVERY
50	43	85.6%	44	87.6%	2.3%	15%	65% - 125%
50	41	81.0%	41	81.4%	0.5%	15%	65% - 125%
							····_
	SPK CONC (ug/L) 50	SPK CONC MS CONC (ug/L) (ug/L)	SPK CONC MS CONC %REC MS (ug/L) (ug/L) 50 43 85.6%	SPK CONC MS CONC %REC MS MSD CONC (ug/L) (ug/L) (ug/L)	SPK CONC MS CONC %REC MS MSD CONC %REC MSD (ug/L) (ug/L) (ug/L)	SPK CONC MS CONC %REC MS MSD CONC %REC MSD RPD (ug/L) (ug/L) (ug/L) 2.3%	(ug/L) (ug/L) RPD 50 43 85.6% 44 87.6% 2.3% 15%

ANALYSIS DATE: 11/10/02

MATRIX SPIKE (MS) / MATRIX SPIKE DUPLICATE (MSD) FOR SOILS											
COMPOUND	SPK CONC (mg/kg)	MS CONC (mg/kg)	%REC MS	MSD CONC (mg/kg)	%REC MSD	RPD	ACCEPTABLE RPD	ACCEPTABLE RECOVERY			
						·····					
TPH DIESEL	500	461	92.2%	442	88.4%	4.2%	15%	65% - 125%			
TPH OIL	500	428	85.6%	420	84.0%	1.8%	15%	65% - 125%			

SPK CONC - CONCENTRATION SPIKED INTO MATRIX

MS CONC - ANALYZED CONCENTRATION OF SPIKED SAMPLE

% REC - PERCENT RECOVERY OF SPIKE FROM MATRIX

RPD - RELATIVE PERCENT DIFFERENCE BETWEEN MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERIES

ANALYSES PERFORMED BY: Hermon Atkinson



QA/QC REPORT - MS/MSD DATA

ANALYSIS DATE: 11/19/02

		MATRIX SPIKE	(MS) / MATHIX	SPIKE DUPLICA	TE (MSD) FOR W	ATERS		
COMPOUND	SPK CONC (ug/L)	MS CONC (ug/L)	%REC MS	MSD CONC (ug/L)	%REC MSD	RPD	ACCEPTABLE RPD	ACCEPTABLE RECOVERY
TPH GASOLINE	4000	3109	77.7%	3470	86.8%	11.0%	15%	65% - 125%
TPH DIESEL	10000	10260	102.6%	11030	110.3%	7.2%	15%	65% - 125%
TPH OIL	10000	6890	68.9%	6760	67.6%	1.9%	15%	65% - 125%
мтве	50	57	114.8%	58	115.0%	0.2%	15%	65% - 125%
BENZENE	50	49	97.0%	50	100.6%	3.6%	15%	65% - 125%
TOLUENE	50	49	98.4%	51	101.8%	3.4%	15%	65% - 125%
ETHYLBENZENE	50	51	101.2%	53	105.9%	4.5%	15%	65% - 125%
TOTAL XYLENES	150	159	106.1%	163	108.7%	2.4%	15%	65% - 125%

		MATRIX SPIKE	E (MS) / MATRIX	SPIKE DUPLIC	ATE (MSD) FOR	SOILS		
COMPOUND	SPK CONC (mg/kg)	MS CONC (mg/kg)	%REC MS	MSD CONC (mg/kg)	%REC MSD	RPD	ACCEPTABLE RPD	ACCEPTABLE RECOVERY
TPH GASOLINE	200	208	104.0%	224	112.0%	7.4%	15%	65% - 125%
TPH DIESEL	500	547	109.4%	513	102.6%	6.4%	15%	65% - 125%
TPH OIL	500	526	105.2%	525	105.0%	0.2%	15%	65% - 125%
MTBE BENZENE	0.250 0.250	0.279 0.270	111.6% 108.0%	0.283 0.280	113.2% 112.0%	1.4%	15%	65% - 125%
TOLUENE	0.250	0.270	106.8%	0.277	112.0%	3.6% 3.7%	15% 15%	65% - 125% 65% - 125%
ETHYLBENZENE	0.250	0.270	108.0%	0.283	113.2%	4.7%	15%	65% - 125%
TOTAL XYLENES	0.750	0.839	111.9%	0.882	117.6%	5.0%	15%	65% - 125%

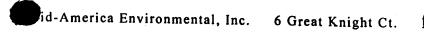
SPK CONC - CONCENTRATION SPIKED INTO MATRIX

MS CONC - ANALYZED CONCENTRATION OF SPIKED SAMPLE

% REC - PERCENT RECOVERY OF SPIKE FROM MATRIX

RPD - RELATIVE PERCENT DIFFERENCE BETWEEN MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERIES

ANALYSES PERFORMED BY: Hermon Atkinson





QA/QC REPORT - CALIBRATION DATA

Mid-America Environmental Project #021107W1

DATE:		11/	7/02	11/	8/02	11/	11/02	11/	12/02	11/	13/02	11/	4/02
	STD										1		
COMPOUND	AMOUNT	STD	%DIFF	STD	%DIFF	STD	%DIFF	STD	%DIFF	STD	%DIFF	STD	%DIFF
TPH GASOLINE	10000			••			••						•-
TPH DIESEL FID2	500	485	3.0%	472	5.6%	479	4.2%	460	8.0%	506	1.2%	474	5.2%
TPH OIL FID2	500	502	0.4%	442	11.6%	486	2.8%	502	0.4%	475	5.0%	464	7.2%
													
		li						,	-			ļ	
												}	
			THE OTANGE	0.440	AND THE CLU	NITICIED CO				1		<u> </u>	
% DIFF - DIFFERENCE			THE STANDAR	NU AMOUNT	AND THE QUA	NITHED CO	NI INUING CAL	IBHATION ST	TANDARD				

ANALYSES PERFORMED BY: H. Atkinson



QA/QC REPORT - CALIBRATION DATA

Mid-America Environmental Project #021107W1

DATE:		11/1	5/02	11/1	8/02	11/1	9/02	11/2	1/02	
	STD									
COMPOUND	AMOUNT	STD	%DIFF	STD	%DIFF	STD	%DIFF	STD	%DIFF	
TPH GASOLINE	10000	9300	7.0%	8544	14.6%	9155	8.5%	8756	12.4%	
TPH DIESEL FID2	500	555	11.0%	565	13.0%	566	13.2%	547	9.4%	
TPH OIL FID2	500	547	9.4%	497	0.6%	514	2.8%	513	2.6%	
			!							
мтве	100.00	100.2	0.2%	87.2	12.8%	110.6	10.6%	109.9	9.9%	
BENZENE	100.00	100.1	0.1%	85.8	14.3%	96.5	3.5%	98.5	1.5%	
TOLUENE	100.00	100.1	0.1%	101.1	1.1%	100.0	0.0%	104.6	4.6%	
ETHYLBENZENE	100.00	99.8	0.2%	99.9	0.1%	100.1	0.1%	104.4	4.4%	
m&p-XYLENES	200.00	200.2	0.1%	198.4	0.8%	199.1	0.5%	207.8	3.9%	
o-XYLENES	100.00	100.1	0.1%	97.5	2.5%	100.1	0.1%	102.3	2.3%	

% DIFF - DIFFERENCE, IN PERCENT, BETWEEN THE STANDARD AMOUNT AND THE QUANTIFIED CONTINUING CALIBRATION STANDARD ACCEPTABLE LIMIT IS 15% OR LOWER

ANALYSES PERFORMED BY: H. Atkinson

MID-AMERICA ENVIRONMENTAL

6 Great Knight Court Manchester, MO 63011 314.645.8185 or 636.391.8944

Fax 314.645.8304 or 636.391.8695

Warehouse: 3650 Big Bend Industrial Court St. Louis, MO 63143

Client Name:	MACTEC		-
Address:	3199 RIVERPORT	TECH CENTON	
	SI. LOUIS MO	63043	_
Phone:	314 209-5900	Fax: 314 209-5929	<u> </u>
Project Name:	BOEING TRACT 1	SOUT H	_
Site Address:			
Project Manage	r. Dennis Brinkles	/	_
Project Number	: <u>510 200</u>		=

1	Laboratory Notes						
Lab Project Number:	071107WL						
Requested TAT:	CN DITE						
A SECTION AND ADDRESS OF THE PARTY OF THE PA	Sample Receipt						
Total # of Containers:							
Received in Good Con	Received in Good Condition: YES / NO						
Temperature Upon Re	ceipt (if applicable):						
Billing:							
Address:							
Phone:	Fax:						
Contact:							

Sample ID(s):	Date	Time	Matrix	× / /c	\$\\\ 0	7/\$°/&	\$ \	} /	/ ,	/ /	Ζ,	/	Notes
B4151-6	11/7/02	1020	5011		X		X						
64151W	11/7/02	1120	WHIE	<u></u>	M		X						
B4152-4'	11/7/22	1140	Son		X		\times						
B41 S3D- 4	11/7/02	1320	SOIL	_	X		X						
1341 SZW	11/7/02	1430	WATE	R	X		X					l	
			,		,								
Relinquished By:	D	ate/Time ///	7/122	Received By:	-24	uu	A	EL	١		,		/// Date/Time
Relinquished By:	D	ate/Time) ** F	Received By:	7								Date/Time

Office: 6 Great Knight Court Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391.8695

Warehouse:

3650 Big Bend Industrial Court St. Louis, MO 63143

Client Name:	MACTEC
Address:	3199 RIVERPORT TECH CENTER
	ST LOUIS MO 63043
Phone:	714 209-5900 Fax:
Project Name:	BOEING TRACT 1 SOUTH
Site Address:	
Project Manage	r: Devivis Brinkler
Project Number	: 510 200

Laboratory Notes						
Lab Project Number:	1W 5011 20					
Requested TAT:	OU SITE					
	Sample Receipt					
Total # of Containers:	<u>q</u>					
Received in Good Cond	dition: YES / NO					
Temperature Upon Rec	peipt (if applicable): N/A					
Billing:						
Address:						
Phone:	Fax:					
Contact:						

Sample ID(s):	Date	Time	Matrix		/d	5/c	\\$\/	/ &}	8	3/	/	Ι.			Notes
B2W1-6'	11/8/02	1000	کی ، ر			X			X						
B2 W1W	11/8/02	1120	WATER						X						
R41N1-8'	11/8/02	1315	5012	والمواو		\times			X						
B41N1.W	11/8/02	1420	WATCH	}		λ			X						
BaT 1-8	11/8/02	1475	50.L						X						
-B44111-6-DLB -	11/8/01	150%	5-16			X			X		DL	3			
B44N1-9	11/8/02	1515	501L			\times		ľ	X						
B4153DW	11/8/02	1600	WATER	}		×			\times						
B2I1W	11/8/02	1700	WATER						X						
B44 N1 W	11/8/02		WATER			X			X						
														L	
												<u> </u>			
]											
		<u> </u>			<u> </u>										
Relinquish		ate/Time ,//	2 E.L			2/	[€11]	. 1	/	1	Su	1,,,	1_		11/8/12 Date/Time
Relinquished by:	Di	ate/Time 7	Rec	eived	Ву:								-,		Date/1

MID-AMERICA ENVIRONMENTAL

510200

Client Name:

Project Name: Site Address:

Project Number:

Address:

Phone:

6 Great Knight Court

Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391,8695

Warehouse:

3650 Big Bend Industrial Court St. Louis, MO 63143

MACTEC 3199 ZIVERPORT TECH CENTER 5-, Louis MO 314209 5900 TOLACT SouTH BOEING BRINKLOW PENNIS Project Manager:

	Laboratory Notes
Lab Project Number:	021107Wl
Requested TAT:	ON 91TE
	Sample Receipt
Total # of Containers:	<u> </u>
Received in Good Cor	ndition: YES / NO,
Temperature Upon Re	ceipt (if applicable):
Billing:	
Address:	
-	
Phone:	Fax:
Contact:	

Sample ID(s):	Date	Time	Matrix		\$\d		\\ <u>`</u> \$\			Notes
B4851-7	11/11/02	0915	5014		X		X			
B49I2-6	11/11/00	0950	Son		X		X			
B48I1W	11/11/02	1040	WATUS		\times		\times			
B48IQW	11/11/02	1125	WATER		X		X			
348111-9	11/11/02	1040	5016		X		\times			
B2N1-8	11/11/02	1420	5016				\times			
B48N1W	11/11/02	1505	WATER		X		X			
B2N1W	11/11/02	1615	WATER	10	菱		X			
	•			_						
] _						
] [
]						
				↓						
Relinquished By:	Da	ate/Time ;//	/SZ Rec	eived By		1.11	A	4	 1	11/11/2 Date/Time
Relinquished By:	D	ate/Time	/ Rec	eived By:						Date/Time

Office:

6 Great Knight Court Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391.8695

Warehouse:

3650 Big Bend Industrial Court St. Louis, MO 63143

Client Name: _	MACTEC
Address: _	3,99 RIVERPORT TECH CENTER
_	ST. Louis MO
Phone: _	(314) 239.5900 Fax: (714) 209.5929
Project Name:	BOKING TRACT 1 SOUTH
Site Address:	
Project Manager	: DENNIS BRINKING
Project Number:	5/0200

Laboratory Notes						
Lab Project Number:	C71107W1					
Requested TAT:	ON SITE					
	Sample Receipt					
Total # of Containers:	6					
Received in Good Con	dition: YES / NO,					
Temperature Upon Red	ceipt (if applicable):					
Billing:						
Address:						
Phone:	Fax:					
Contact:						

Sample ID(s):	Date	Time	Matrix	/ 0	/8/	* \$/\$	\\ &\/		//	//	Notes
B2N2-8	11/12/02	0845	SOIL								
B2N3-8	11/12/62	0870	5016			1	X				
Bansw	11/12/02	0940	WATER				X				
BZNZW	11/12/02	1035	WATED]]			\times				
B41E1-10	11/12/02	1310	HATER		$X \perp$		X				
BHEIN	11/12/02	1535	WATETS		X		X				
] []							
] [_]							
			<u> </u>								
									ليا		
Relinquished By:	D:	ate/Time //	/Z Rec	eived By:	Hen	111	A	180	<u>/</u> !!'	· ·	11/2/02 Date/Time
Relinquishe	D	ate/Time	Red	eived By:	-						Date/Tir

6 Great Knight Court Office:

Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391.8695

Warehouse:

3650 Big Bend Industrial Court St. Louis, MO 63143

					[Nequested IAI,	
Client Name: Address:	MACTEC 3199 RIVERPORT 7 ST. LOUIS MO	63043			Total # of Containers Received in Good Contemperature Upon I	Condition:
Phone:	314 209 5900	Fax: <u>3/4</u>	209.4	79 29		1000ipt (ii appiioasii
Project Name: Site Address:	BOKING TRACT 1	SOUTH			Billing: Address:	
Project Manage	er: DENNIS BRINKL				Phone:	Fax: _
	Sample ID(s):	Date	Time	Matrix	12/2/2/2/2	7///

1	Laboratory Notes							
Lab Project Number:	621167W1							
Requested TAT:	(N SITE							
	Sample Receipt							
Total # of Containers:	7							
Received in Good Con	Received in Good Condition: YES / NO							
Temperature Upon Red	ceipt (if applicable):							
Billing:								
Address:								
Phone:	Fax:							
Contact:								

Date	Time	Matrix		5 / c	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ક્}ે હ		/ /	/ /	/ /		Notes
11/13/02	0820	<i>دی، د</i>				X						
11/13/00	0900	SOIL		X		X						
1/13/02	0950	WATER				X						
11/15/02	1040	WATEA		X		X						
11/13/02	1550	WATEL	1 _	X		X						
11/13/02	1555	50,0]]			X						
11/13/02	1635	LUATER				X						
	<u> </u>											
_												
									1-			
		<u> </u>			lece	(1/	1	1		(4		Date/Time
) Da	ite/Time	Rec	ceived By:									Date/Time
	11/13/02 11/13/02 11/13/02 11/13/02 11/13/02	11/13/02 0820 11/13/02 0900 11/13/02 1040 11/13/02 1550 11/13/02 1635	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1475 WATER 11/13/02 1475 WATER	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1475 LUATER Date/Time 11/13/52 Received By:	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1475 WATER	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0950 WATER 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1475 WATER 11/13/02 1475 WATER	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0950 WATER 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1435 LUATER Date/Time 11/13/5 Received By:	11/13/02 0820 531L 11/13/02 0900 501L 11/13/02 0950 WATER 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 50. L 11/13/02 1475 LUATER Date/Time///33/5 Received By:	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 14 35 LUATER Date/Time///3/S-Received By:	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATER 11/13/02 1550 WATER 11/13/02 1555 SOIL 11/13/02 1435 WATER 11/13/02 1435 WATER Date/Time 11/13/5 Peccived By:	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 0950 WATED 11/13/02 1040 WATED 11/13/02 1555 SOIL 11/13/02 1555 SOIL 11/13/02 1635 LUATER Date/Time///3/5-Received By:	11/13/02 0900 SOIL 11/13/02 0900 SOIL 11/13/02 1040 WATES 11/13/02 1550 WATES 11/13/02 1555 SOIL

Office: 6 Great Knight Court Manchester, MO 63011

314.645.8185 or 636.391.8944

Fax 314.645.8304 or 636.391.8695

Warehouse: 3650 Big Bend Industrial Court St. Louis, MO 63143

Client Name: Address:	MACTEC 3199 RIVERPORT TECH CONTOR ST. LOUIS, MD 63043
Phone:	314 209 - 5900 Fax: 314 209 - 5929
Project Name:	BOEING TRACT / SOUTH
Site Address:	
Project Manage	r. Dervis BRINKLEY
Project Number	: 5/0200

Laboratory Notes						
Lab Project Number:	021107W1					
Requested TAT:	INU 11TE					
	Sample Receipt					
Total # of Containers:	15					
Received in Good Cor	ndition: XES / NO					
Temperature Upon Re	ceipt (if applicable):					
Billing:						
Address:						
Phone:	Fax:					
Contact:						

Sample ID(s):	Date	Time	Matrix	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
MW 18	11/14/02	1005	WATER	
B4851-6	11/14/02	1030	5010	
B40 C1-6	11/14/62	1130	Soic	
B4562-6	11/14/02	1135	ح ه، د	
B4(51-6	11/4/12	1200	1111	X X
1.41 W1-6	11/14/02	1335	Lin	
PALCIW	11/4/12	1410	witte ve	a X X
B4002-6	11/14/01		9014	. X X
840 E2 W	11/14/02	1435	WATEN	n X X
B4USIU)	11/14/02	1510	WATER	
B45CS2-6	11/14/02	1545		
640saw			WATE	
B40W1W	11/14/02	1515	WATCH	
B49 S1W	11/14/02	1620	WATE	U-10 XX
B45CS2W	11/14/00	17/3,	LYATER	
Relinquished By:	, Da	ate/Time/2/	Hec	eceived By. Jenn / Janu 11/14/2 Date/Time
Relinquished	D	ate/Time	Boo	Data/Tin

Office: 6 Great Knight Court

Manchester, MO 63011

314.645.8185 or 636.391.8944

Fax 314.645.8304 or 636.391.8695

Warehouse:

3650 Big Bend Industrial Court St. Louis, MO 63143

MACTEC
3199 RIVERPORT TECH CENTER
St. LOUIS NO 63043
314 209-5900 Fax: 314 209-5929
BOKING TRACT / SOUTH
: DENNIS BRINKLEY
510200

1	Laboratory Notes
Lab Project Number:	02/0761
Requested TAT:	ON SITE
	Sample Receipt
Total # of Containers:	_5
Received in Good Con	dition: YES / NO ,
Temperature Upon Rec	ceipt (if applicable): \(\bullet / \Lambda \)
Billing:	
Address:	
Phone:	Fax:
Contact:	

Sample ID(s):	Date	Time	Matrix	ix /c	7/0	3/2	%	5/6	3/					Notes	
B45C51DW	11/19/02	0805	WATE	an X	X										
B4853-10	11/15/02	1130	5011	L X	X										
B4852-5	11/15/02	1105	اریک	<u>/</u> \ \ \ \ \	\searrow										
B4652W	11/15/02	1340	WATER	X	X									PUE 19	
B4853W	1/15/02	1350	WATE	e X	X										- 4425
													المنظينة الما	<u> </u>	3511
														130	Ą
														100	11
															سوتشيبيات. 13 قاري
						/				4				,	
Relinquished By:				Received By-	7/		s (//		H.	201	/		11/15/62 Date/Time	
Relinquished By:	Da	ite/Time	F	Received By:	· ·		· ·							Date/Time	

Office: 6 Great Knight Court Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391.8695

Warehouse: 3650 Big Bend Industrial Court

ENVIRO	NMENIAL St. Louis, MO 63143
Client Name:	MACTEL
Address:	3199 RIVERPORT TECH CENTER
	ST. LOUIS MO 63043
Phone:	314 209 - 5900 Fax: 314 209 - 5929
Project Name:	BOKING TRACT I SOUTH
Site Address:	
Project Manage	DENNIS BRINKLEY
Project Number:	510200

Į.	Laboratory Notes	
Lab Project Number:	021107W1	
Requested TAT:	DU1 517E	Full Dans
	Sample Receipt	
Total # of Containers:	5x212 Jus	10 × 40 ml Vda
Received in Good Con	dition: YES	NO .
Temperature Upon Rec	ceipt (if applicable):	<u>NA</u>
Billing:		
Address:		
Phone:	Fax:	
Contact:		

Sample ID(s):	Date	ime	Matrix	/	/ 0)	/ 0/	*	&∕	&/		/			140162	
B4552-7	11/18/02	11/0	5.10		X	X									
B45 S2W	11/14/02	1130	WATER	<u> </u>	<u> </u>	4									
B45 83-7	11/18/02	1130	5016		\times	X									
B4583W	11/18/02	1145	WATER		\times	X									
B45S4-7	10/8/11	1150	SOIL		\times	X									
B4554W	11/18/02	1 10.	WATER		X	X					<u> </u>				
B4551Dw	11/18/02	1440	WATER		\times	X								·	
B4556-6	11/18/02	1520	Sone		X	X								·- 	
B4557-7	11/18/02		SOIL		\times	X							<u> </u>		
B 455 6W	11/18/02	1	WATER		\times	X									
] [
			,			,	,								
Relinquished By:	Da	ate/Time	Rec	eived E	Ву: /	VO.	ولأو	6	6	.6	201	//	630	Date/Time	11/18/0
Relinquishe	D D	ato/Time	/ E Boo	obrad f	D			1)			_	-		Date/T	•

Office: 6 Great Knight Court Manchester, MO 63011

314.645.8185 or 636.391.8944 Fax 314.645.8304 or 636.391.8695

3650 Big Bend Industrial Court St. Louis, MO 63143 Warehouse:

Client Name:	MACTEC
Address:	3199 RIVEAPORT TECH CENTUR
	ST. LOUIS MO 67043
Phone:	3/4 209 - 59 00 Fax: 3/4 209 5929
Project Name:	BOEING TRACT 1 SOUTH
Site Address:	
Project Manager:	DENNIS BILINKLEY
Project Number:	5/0 J 00

į	Laboratory Notes
Lab Project Number:	02110761
Requested TAT:	Full Day On Site
·	Sample Receipt
Total # of Containers:	13×1/ome Voa 5×202 Jus
Received in Good Cor	ndition: XES / NO
Temperature Upon Re	ceipt (if applicable): Jike chin field
Billing:	
Address:	· .
Phone:	Fax:
Contact:	

Sample ID(s):	Date	Time	Matrix		0	*\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\\$\\ \\$\	\$\ \	\&\/					Notes
B4588-6	11/19/02	0810	Soil		X	X								
B4558W	11/19/02	0840	WATER	(X	1								
B45550W	1 7 7	1	WATER	Y	×,	7								
P34557W	11/19/02	1000	WATER	. [<u> </u>	X			T					
B4559-6	11/19/02	1230	SOIL		X	X								
B45510-6	11/19/02	1255	SOIL	3	γ,	X								
B 4559W	11/19/02	1	WHIDA	1		X								
B45510W	11/19/02	1345	WATER	1	\leq	\times								
B4855-6	11/19/02	1445	SOIL		×									
B4856-6	11/19/02	1500	50.4	1		×								
B48S6W	11/15/02	1540	WATER	1	\langle	\times								
B4885W	11/19/02	1550	WATER		<u><</u>									
Relinquished By:	Di	ate/Time	A Rece	ived B	y: (b	2		6	.6	ud	1	10	19/02 Date/Time 1600
Relinquished By:	Di	ate/Time	Rece	ived B	y:		. (J						Date/Time

Office: 6 Great Knight Court

Manchester, MO 63011

314.645.8185 or 636.391.8944

Fax 314.645.8304 or 636.391.8695

3650 Big Bend Industrial Court St. Louis, MO 63143 Warehouse:

Client Name:	MACRC. 3199 RIVERONT TECH
Phone:	314 239 5900 Fax: 714 2001-5924
Project Name: _	Bos in DINCT 1 SOUT
Site Address: _	
Project Manager:	Desir's BRINKERY
Project Number:	

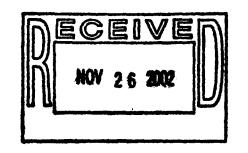
1	Laboratory Notes
Lab Project Number:	021107101
Requested TAT:	A-At
	Sample Receipt
Total # of Containers:	4
Received in Good Con	ndition: YES/ NO /
Temperature Upon Re	ceipt (if applicable):
Billing:	
Address:	
Phone:	Fax:
Contact:	

Sample ID(s):	Date	Time	Matrix	ĸ	/o	70	× ×		\& \&	\frac{1}{2}	/ /	/ ,	/	/	Notes
64758- 7	11/75/02	1510	ショ・レ		\mathbf{x}	\times									
E4887-7	11/20/50	1530	50.4		\times	7									
B4958W	11/10/02	1620	CUATE	2/2	\times	>									
14957W	11/20/20	1600	WATE	71	\times	X									
				_	<u> </u>										
		<u> </u>													
		,													
Relinquished By:	Da	ate/Time / 5	1/2/F	Received	Ву:	-5	1	in	N		1	4	7	w	11/20/02 Date/Time 1645
Relinquished	D	ate/Time	F	Received	By:	7	7								Date/Tin

Fixed Lab

Environmental Science Corp.





Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 20, 2002

ESC Sample # : L95861-01

Date Received Description

November 14, 2002 Boeing-Tract 1 South

Site ID :

m Iom Mellette

Sample ID

B2N3W

Collected By Collection Date : Jack E. Friesner 11/12/02 09:40

Project # : 510200

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	11/15/02	1
Arsenic	0.098	0.010	mg/l	6010B	11/16/02	1
Barium	10.	0.0050	mg/l	6010B	11/16/02	1
Cadmium	BDL	0.0050	mg/l	6010B	11/16/02	1
Chromium	0.32	0.010	mg/1	6010B	11/16/02	1
Lead	0.11	0.0050	mg/l	6010B	11/16/02	1
Selenium	BDL	0.010	mg/l	6010B	11/16/02	1
Silver	BDL	0.0050	mg/l	6010B	11/16/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - ES 487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

BSC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 20, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L95861-02

Date Received :

November 14, 2002

Site ID :

Description

Boeing-Tract 1 South

Project # : 510200

Sample ID

B2N2W

Jack E. Friesner

Collected By Collection Date :

11/12/02 10:10

	Result	Det. Limit_	Units	Method	Date	Dil.	
Parameter Mercury	BDL	0.00020	mg/l	7470A	11/15/02	1	
Arsenic Barium Cadmium Chromium Lead Selenium Silver	0.034 0.60 BDL 0.042 0.039 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	6010B 6010B 6010B 6010B 6010B 6010B 6010B	11/16/02 11/16/02 11/16/02 11/16/02 11/16/02 11/16/02	1 1 1 1 1	

ESC Representative Tom Mellette

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

923 IN - C-TN-01

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA 923 IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 20, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L95861-03

Date Received :

November 14, 2002 Boeing-Tract 1 South

Site ID :

Description

Sample ID

B41E1DW

Project # : 510200

Tom Mellette,

Collected By Collection Date :

Jack E. Friesner 11/13/02 17:10

COTTCOTON 2400	D76	Det. Limit	Units	Method	Date	Dil.
Parameter	Result	Dec. Billic	CHILLD			
Polynuclear Aromatic Hydrocarbons Anthracene Acenaphthene Acenaphthylene Benzo(a) anthracene Benzo(b) fluoranthene Benzo(b) fluoranthene Benzo(k) fluoranthene Chrysene Dibenz(a,h) anthracene Fluoranthene Fluoranthene Indeno(1,2,3-cd) pyrene Naphthalene Phenanthrene Pyrene Surrogate Recovery Nitrobenzene-d5	BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL	0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C	11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02 11/19/02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2-Fluorobiphenyl p-Terphenyl-dl4	73. 61.		% Rec. % Rec.	8270C 8270C	11/19/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative

Attachment A List of Analytes with QC Qualifiers

S	ample #	Analyte	Qualifier
			J3
L	95861-03	Naphthalene	

Attachment B Explanation of QC Qualifier Codes

Qualifier

Meaning

J3

The associated batch QC did not successfully meet the established quality control criteria for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by Relative Percent Differrence.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits

2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131

TIC

- Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 19, 2002

ESC Sample # : L95864-01

Date Received Description November 14, 2002Boeing-Tract 1 South

cito ID .

Site ID :

Project # : 510200

Tom Mellette

Sample ID

B41E1-10

Collected By : Collection Date :

Jack E Friesner 11/12/02 13:10

Result Det. Limit Units Method Dil. Parameter Date Polynuclear Aromatic Hydrocarbons Anthracene BDL 0.033 mg/kg 8270C 11/17/02 1 Acenaphthene BDL 0.033 mg/kg 8270C 11/17/02 Acenaphthylene BDL 0.033 mg/kg 8270C 11/17/02 1 mg/kg 8270C 11/17/02 BDL 0.033 Benzo (a) anthracene 1 11/17/02 0.085 8270C Benzo(a)pyrene 0.033 mg/kg 1 Benzo (b) fluoranthene BDL 0.033 mg/kg 8270C 11/17/02 1 0.033 mg/kg 8270C 11/17/02 Benzo(g,h,i)perylene BDL 1 Benzo (k) fluoranthene BDL 0.033 mg/kg 8270C 11/17/02 1 8270C 11/17/02 mg/kg Chrysene BDL 0.033 1 Dibenz (a, h) anthracene BDL 0.033 mg/kg 8270C 11/17/02 1 Fluoranthene BDL 0.033 mg/kg 8270C 11/17/02 1 mg/kg 8270C 11/17/02 BDL 0.033 1 Fluorene mg/kg 0.033 8270C 11/17/02 Indeno(1,2,3-cd)pyrene BDL 1 0.033 8270C 11/17/02 Naphthalene BDL mg/kg 1 Phenanthrene BDL 0.033 mg/kg 8270C 11/17/02 1 BDL 0.033 8270C 11/17/02 1 Pyrene mg/kg Surrogate Recovery 8270C 34. % Rec. 11/17/02 1 Nitrobenzene-d5 2-Fluorobiphenyl 69. % Rec. 8270C 11/17/02 1 p-Terphenyl-d14 88. % Rec. 8270C 11/17/02

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923 IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

The reported analytical results relate only to the sample submitted.

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ESC

Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 19, 2002

ESC Sample # :

L95864-02

11/17/02

11/17/02

11/17/02

1

1

Date Received

November 14, 2002 Boeing-Tract 1 South

Site ID :

6010B

6010B

6010B

Tom Mellette,

mg/kg mg/kg

mg/kg

Description Sample ID

B2N2-8

Project # : 510200

Collected By Collection Date :

Chromium

Selenium

Silver

Lead

Jack E Friesner 11/12/02 08:45

Date Dil. Units Method Det. Limit Result Parameter 11/18/02 1 BDL 0.020 mg/kg 7471 Mercury 6010B 11/17/02 1 0.50 mg/kg 39. Arsenic 11/17/02 1 6010B 74. 0.25 mg/kg Barium 11/17/02 1 0.25 mg/kg 6010B BDL Cadmium 11/17/02 1 0.50 mg/kg 6010B 7.9

5.9

BDL

BDL

0.25

0.50

0.25

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note: The reported analytical results relate only to the sample submitted.

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ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 19, 2002

Date Received Description

November 14, 2002 Boeing-Tract 1 South ESC Sample # : L95864-03

B2N3-8

Site ID :

Tom Mellett

Sample ID

Project # : 510200

Collected By Jack E Friesner Collection Date : 11/12/02 08:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.030	0.020	mg/kg	7471	11/18/02	1
Arsenic	3.4	0.50	mg/kg	6010B	11/17/02	1
Barium	83.	0.25	mg/kg	6010B	11/17/02	1
Cadmium	BDL	0.25	mg/kg	6010B	11/17/02	1
Chromium	13.	0.50	mg/kg	6010B	11/17/02	ī
Lead	8.1	0.25	mg/kg	6010B	11/17/02	1
Selenium	BDL	0.50	mq/kq	6010B	11/17/02	1
Silver	BDL.	0.25	mg/kg	6010B	11/17/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 927, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA 00109, WV - 233

The reported analytical results relate only to the sample submitted.

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ESC Representative

Attachment A List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L95864-01	Indeno(1,2,3-cd)pyrene Nitrobenzene-d5	J3 J2
L95864-02 L95864-03	Mercury Mercury	J4 J4

Attachment B Explanation of OC Qualifier Codes

Qualifier	Meaning
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J 3	The associated batch QC did not successfully meet the established quality control criteria for precision.
J4	The associated batch QC did not successfully meet the established quality control criteria for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits
- 2-Fluorophenol 31-119 Nitrobenzene-d5 43-118 Dibromfluoromethane 72-125 Phenol-d5 12-134 2-Fluorobiphenyl 45-128 Toluene-d8 79-120 2,4,6-Tribromophenol 51-141 Terphenyl-d14 43-137 4-Bromofluorobenzene 66-131
- Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:	Alte	Alternate billing information:				Analysis/Container/Preservative				ervative	Chain of Custody		
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

November 29, 2002

ESC Sample # : L96647-01

Date Received Description

November 21, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B42S1- 6 FT

Project # :

Collected By Collection Date : Dennis Brinkley 11/19/02 14:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene Toluene Ethylbenzene Total Xylene Methyl tert-butyl ether	BDL BDL BDL BDL	0.0025 0.025 0.0025 0.0025 0.0075 0.025	mg/kg mg/kg mg/kg mg/kg mg/kg	8021/OA1 8021/OA1 8021/OA1 8021/OA1	11/23/02 11/23/02 11/23/02 11/23/02 11/23/02 11/23/02	5 5 5 5 5
TPH (GC/FID) Low Fraction OAl Surrogate a,a,a-Trifluorotoluene	BDL 87.	0.50	mg/kg % Rec.	8021/OA1 8021/OA1	11/23/02	5
TPH (GC/FID) High Fraction Surrogate Recovery (50-150)	BDL	4.0	mg/kg	3546/DRO	11/27/02	1
Surrogate Recovery (50-150) o-Terphenyl	58.		% Rec.	3546/DRO	11/27/02	1

BDL - Below Detection Limit Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

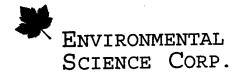
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 9109, WV - 233

Note: The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

SC Representative

om Mel/lette,



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

12/14/2002

November 29, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 21, 2002 Boeing-Tract 1 South Date Received Description

B45053D-6 B40N3D- 6 FT Sample ID

Dennis Brinkley Collected By Collection Date : 11/20/02 08:05

ESC Sample # : L96647-02

Site ID : Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene Toluene Ethylbenzene Total Xylene Methyl tert-butyl ether TPH (GC/FID) Low Fraction	BDL BDL BDL BDL BDL BDL	0.0025 0.025 0.0025 0.0075 0.025 0.50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1	11/23/02 11/23/02 11/23/02 11/23/02 11/23/02 11/23/02	5 5 5 5 5 5
OA1 Surrogate a,a,a-Trifluorotoluene	89.		% Rec.	8021/OA1	11/23/02	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	11/27/02	1
Surrogate Recovery (50-150) o-Terphenyl	58.		% Rec.	3546/DRO	11/27/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Tom Mellette

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

November 29, 2002

ESC Sample # : L96647-03

Date Received :

November 21, 2002

Description

Boeing-Tract 1 South

Sample ID

B42S1W

Collected By Collection Date :

Dennis Brinkley 11/20/02 13:10

Site ID : Project # :

Iom Mel

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021/OA1	11/24/02	1
Toluene	\mathtt{BDL}	0.0050	mg/l	8021/OA1	11/24/02	1
Ethylbenzene	BDL	0.00050	mg/l	8021/OA1	11/24/02	1
Total Xylene	\mathtt{BDL}	0.0015	mg/1	8021/OA1	11/24/02	1
Methyl tert-butyl ether	BDL	0.0050	mg/l	8021/OA1	11/24/02	1
TPH (GC/FID) Low Fraction	BDL	0.10	mg/l	8021/OA1	11/24/02	1
OAl Surrogate						
a,a,a-Trifluorotoluene	91.		<pre>% Rec.</pre>	8021/OA1	11/24/02	1
TPH (GC/FID) High Fraction Surrogate Recovery (50-150)	BDL	0.10	mg/l	3510/DRO	11/27/02	1
o-Terphenyl	37.		% Rec.	3510/DRO	11/27/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 29, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96647-04

Date Received : Description

November 21, 2002 Boeing-Tract 1 South

Sample ID

B45CS3DW

Site ID :

Dennis Brinkley

Project # :

Collected By Collection Date :

11/20/02 13:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
Benzene Toluene Ethylbenzene Total Xylene Methyl tert-butyl ether TPH (GC/FID) Low Fraction	BDL BDL BDL BDL BDL	0.00050 0.0050 0.00050 0.0015 0.0050 0.10	mg/l mg/l mg/l mg/l mg/l mg/l	8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1	11/24/02 11/24/02 11/24/02 11/24/02 11/24/02 11/24/02	1 1 1 1 1	
OAl Surrogate a,a,a-Trifluorotoluene	90.		% Rec.	8021/OA1	11/24/02	1	
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3510/DRO	11/27/02	1	
Surrogate Recovery (50-150) o-Terphenyl	40.		% Rec.	3510/DRO	11/27/02	1	

MIL Tom Mellette. ESC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87187, GA 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Attachment A List of Analytes with QC Qualifiers

h	Sample #	Analyte	Qualifier
₿			
_	L96647-03 L96647-04	o-Terphenyl o-Terphenyl	J2 J2

Attachment B Explanation of QC Qualifier Codes

J2	Surrogate recovery limits have been exceeded; values are control limits	outside lower

Qualifier Report Information

Qualifier

Meaning

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by
 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits

2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125	
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120	
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131	

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:			Alterna	te billing i	nformation;				Analy	sis/Cor	tainer/Pro	eservative		Const of Custody
MIXTEC Hard	my ESI	E) Enron								ARANA JAMA JAMA JAMA JAMA JAMA JAMA			Prepared by:	Page of
ST. Cours, Mo	63043	?											₩ ENVIRO	ONMENTAL
JA 6000, 140	4,7747	•											SCIENC	CE CORP.
													12065 Let	oanon Road
Report to: DENNIS BRIN	Kiry		Email to:										Mt. Juliet,	TN 37122
Report to: DENNIS BRIN Project Description: ROENE TRA	ict 1 S	0077	Cit; Co	y/Sate llected									1	15) 758-5858 00) 767-5859
Phone:	Client Project	t #:	E	ESC Key:									1	15) 758-5859
FAX:	0: # ::: 1	D#.		20#					0					
Collected by:	Site/Facility I			P.O.#:					07/0					
Collected by (signature):		.ab MUST Same Day. Next Day Two Day .	20	00% 00%	Date Result Store Control Email?N	Vo¥es	No.	4-1	7-4				CoCode Template/Prelogin	(lab use only)
Packed on Ice_N Y		I WO Day		30 /6	FAX?N	No_Yes	Cntr	\wedge	17				Shipped Via:	
Sample ID	Comp/Grab	Matr	ix* I	Depth	Date	Time			!				Remarks/Contaminant	Sample # (lab only)
B4251-6	GRAS	501	_	6	11/9/02	1415	1	X	X	3.65 3.65				196647-01
B40N3D-6	44	Se.		6	11/20/02	0305	1	X	X	1 2 4/2 1 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	eraso 41 Preside Nagraniza			oz
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											4 (4.5%) 6 (2.5%)			
											Ey.35 k 16 5 5 5			
*Matrix: SS - Soil/Solid GW - Grou	undwater W	N - Waste	Nater D	W - Drink	king Water C	OT - Other_						pH	Te	mp
Remarks:				,				-				Flor	v Ot	her
Retinquished by: (Signature)	D#1		rime:	Receiv	ed by: (Signa	sture)	cor			Samp	es returned Ex Cou	d via: UPS rier D	Condition: 	(lab use only)
Relinquished by: (Signature)	Dat		Γime:		ed by: (Signa					Temp	ZŁ	Bottles Rece		
Relinquished by: (Signature)	Dai	te:	Time:	12.32	ved for lab b	อื่อ อโดยเก็บแก⊈กัส				Date:	21/02	Time: 4:700	pH Checked:	NCF:



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 December 03, 2002

ESC Sample # : L96805-01

Date Received : Description

November 22, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4859-8

Project # : 510200

Tom MeXlette,

Collected By

Collection Date :

J. Friesner 11/21/02 10:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene Toluene Ethylbenzene	BDL BDL BDL	0.0025 0.025 0.0025 0.0075	mg/kg mg/kg mg/kg mg/kg	8021B 8021B 8021B 8021B	11/26/02 11/26/02 11/26/02 11/26/02	5 5 5 5
Total Xylene Surrogate Recovery (70-130) a,a,a-Trifluorotoluene	BDL 89.	0.0075	% Rec.	8021B	11/26/02	5
TPH (GC/FID) High Fraction	38.	4.0	mg/kg	3546/DRO	11/29/02	1
Surrogate Recovery (50-150) o-Terphenyl	57.		% Rec.	3546/DRO	11/29/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 923, IN - C-TN-01

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Page 1 of 17

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Tax I.D. 62-0814289

Est. 1970

L96805-02

510200

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

December 03, 2002

ESC Sample # :

Tom Melletde,

Project # :

Date Received

Description

November 22, 2002 Boeing-Tract 1 South

Sample ID

B4859W

Collected By Collection Date :

J. Friesner
11/21/02 11:15

Site ID :

Result Det. Limit Units Method Dil. Parameter Date TPH (GC/FID) High Fraction 11/27/02 1.0 0.10 3510/DRO 1 mg/1Surrogate Recovery (50-150) o-Terphenyl 76. % Rec. 3510/DRO 11/27/02

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 20109, WV - 233 Note:

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

ESC Sample # : L96805-03

Date Received : Description

November 22, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B48510-7

510200 Project # :

Tom Mellette,

Collected By : Collection Date : 11/21/02 11:40

J. Friesner

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene Toluene Ethylbenzene Total Xylene	BDL BDL BDL BDL	0.0025 0.025 0.0025 0.0075	mg/kg mg/kg mg/kg mg/kg	8021B 8021B 8021B 8021B	11/27/02 11/27/02 11/27/02 11/27/02	5 5 5 5
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene	86.		% Rec.	8021B	11/27/02	5
TPH (GC/FID) High Fraction	38.	4.0	mg/kg	3546/DRO	11/30/02	1
Surrogate Recovery (50-150) o-Terphenyl	54.		% Rec.	3546/DRO	11/30/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

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REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive

St. Louis, MO 63043

December 03, 2002

ESC Sample # : L96805-04

Date Received

: November 22, 2002 :

Description

Boeing-Tract 1 South

Sample ID

B48510W

Collected By : Collection Date :

J. Friesner 11/21/02 12:00 Project # : 510200

Site ID :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	11/27/02	1
Toluene	BDL	0.0050	mg/1	8021B	11/27/02	1
Ethylbenzene	\mathtt{BDL}	0.00050	mg/l	8021B	11/27/02	1
Total Xylene	BDL	0.0015	mg/1	8021B	11/27/02	1
Surrogate Recovery (70-130)			•		, ,	
a,a,a-Trifluorotoluene	94.		% Rec.	8021B	11/27/02	1
TPH (GC/FID) High Fraction	0.18	0.10	mq/l	3510/DRO	11/27/02	1
Surrogate Recovery (50-150)	0.10	0.10	mg/I	3310/DRO	11/2//02	_
o-Terphenyl	51.		% Rec.	3510/DRO	11/27/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 921, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 20109, WV - 233 Note:

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REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96805-05

Date Received : Description :

November 22, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B13E3-6 DUP

Project # : 510200

: Collected By Collection Date :

J. Friesner 11/21/02 15:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.034	0.020	mg/kg	7471	11/25/02	1
Arsenic	4.0	0.50	mg/kg	6010B	11/28/02	1
Barium	130	0.25	mg/kg	6010B	11/28/02	1
Cadmium	0.35	0.25	mg/kg	6010B	11/30/02	1
Chromium	12.	0.50	mg/kg	6010B	11/28/02	1
Lead	8.9	0.25	mg/kg	6010B	11/30/02	1
Selenium	3.2	0.50	mg/kg	6010B	11/28/02	1
Silver	BDL	0.25	mg/kg	6010B	11/28/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 823, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

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REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 December 03, 2002

ESC Sample # :

L96805-06

Date Received :

November 22, 2002 Boeing-Tract 1 South

Description

Site ID :

Project # : 510200

Sample ID

B4E1W

Collected By Collection Date : 11/21/02 16:55

J. Friesner

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene Toluene Ethylbenzene Total Xylene	BDL BDL BDL	0.00050 0.0050 0.00050 0.0015	mg/l mg/l mg/l mg/l	8021B 8021B 8021B 8021B	11/27/02 11/27/02 11/27/02 11/27/02	1 1 1
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene	94.		% Rec.	8021B	11/27/02	1

Tom Měllečte, SC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



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REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96805-07

Date Received : Description

November 22, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4859W

Project # : 510200

Collected By : J. Friesner Collection Date : 11/21/02 11:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	_
Benzene Toluene Ethylbenzene Total Xylene	0.00061 BDL BDL BDL	0.00050 0.0050 0.00050 0.0015	mg/l mg/l mg/l mg/l	8021B 8021B 8021B 8021B	11/27/02 11/27/02 11/27/02 11/27/02	1 1 1	
Surrogate Recovery (70-130) a,a,a-Trifluorotoluene	93.		% Rec.	8021B	11/27/02	1	

an, Tom Mellette, ESC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, WA - 00109, WV - 233

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REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96805-08

Date Received Description

: November 22, 2002 : Boeing-Tract 1 South

Sample ID

B4E1-14

Site ID :

Project # : 510200

Collected By : Collection Date :

J. Friesner 11/21/02 08:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021B	12/02/02	5
Toluene	BDL	0.025	mg/kg	8021B	12/02/02	5
Ethylbenzene	\mathtt{BDL}	0.0025	mg/kg	8021B	12/02/02	5
Total Xylene	0.0094	0.0075	mg/kg	8021B	12/02/02	5
Surrogate Recovery (70-130)			3, 3		• •	
a,a,a-Trifluorotoluene	93.		% Rec.	8021B	12/02/02	5
TPH (GC/FID) High Fraction Surrogate Recovery (50-150)	47.	4.0	mg/kg	3546/DRO	11/30/02	1
o-Terphenyl	60.		% Rec.	3546/DRO	11/30/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 922, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Tom Mellette,

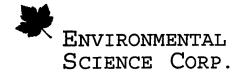
Note:

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Page 8 of 17

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 December 03, 2002

ESC Sample # : L96805-09

Date Received : Description :

November 22, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4E1W

Project # : 510200

Collected By Collection Date :

: J. Frieshc. e: 11/21/02 16:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
TPH (GC/FID) High Fraction	3.5	0.10	mg/l	3510/DRO	11/27/02	1	
Surrogate Recovery (50-150) o-Terphenyl	75.	v.	% Rec.	3510/DRO	11/27/02	1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

WW1

om Mellette,

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 December 03, 2002

ESC Sample # : L96805-10

Date Received Description November 22, 2002 Boeing-Tract 1 South

Site ID :

Project # : 510200

Sample ID

B13E1-6

Collected By : Collection Date :

J. Friesner
11/21/02 14:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.022	0.020	mg/kg	7471	11/25/02	1
Arsenic	2.4	0.50	mg/kg	6010B	11/30/02	1
Barium	120	0.25	mg/kg	6010B	11/30/02	ī
Cadmium	0.48	0.25	mg/kg	6010B	11/30/02	ī
Chromium	10.	0.50	mg/kg	6010B	11/30/02	1
Lead	9.8	0.25	mg/kg	6010B	11/30/02	ĩ
Selenium	BDL	0.50	mg/kg	6010B	11/30/02	ī
Silver	0.26	0.25	mg/kg	6010B	11/30/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487 GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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Page 10 of 17

on Mellerte ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive December 03, 2002

St. Louis, MO 63043

ESC Sample # : L96805-11

Date Received : Description

November 22, 2002 Boeing-Tract 1 South

Site ID :

Mi

Tom Mellette,

Sample ID

B13E1W

Project # : 510200

Collected By Collection Date :

J. Friesner 11/21/02 15:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	11/26/02	1
Arsenic	0.017	0.010	mg/l	6010B	11/28/02	1
Barium	0.37	0.0050	mg/1	6010B	11/28/02	1
Cadmium	BDL	0.0050	mg/1	6010B	11/28/02	1
Chromium	BDL	0.010	mg/l	6010B	11/28/02	1
Lead	0.0092	0.0050	mg/1	6010B	11/28/02	1
Selenium	BDL	0.010	mg/l	6010B	11/29/02	1
Silver	0.0066	0.0050	mg/l	6010B	11/28/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 9/23, IN - C-TN-01 Note:

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SC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

December 03, 2002

Site ID :

ESC Sample # : L96805-12

Date Received

November 22, 2002

Description

: Boeing-Tract 1 South :

Sample ID

B13E2-6

Collected By

J. Friesner

Collection Date :

11/21/02 15:20

Project # : 510200

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.024	0.020	mg/kg	7471	11/25/02	1
Arsenic	BDL	0.50	mg/kg	6010B	11/30/02	1
Barium	92.	0.25	mg/kg	6010B	11/30/02	1
Cadmium	BDL	0.25	mg/kg	6010B	11/30/02	ī
Chromium	9.3	0.50	mg/kg	6010B	11/30/02	ī
Lead	5.0	0.25	mg/kg	6010B	11/30/02	ī
Selenium	BDL	0.50	mg/kg	6010B	11/30/02	ī
Silver	BDL	0.25	mg/kg	6010B	11/30/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:

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Representative

Tom Mellette.



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96805-13

Date Received :

November 22, 2002 Boeing-Tract 1 South

Description

Site ID :

Sample ID

B13E2W

Project # : 510200

Collected By Collection Date :

J. Friesner 11/21/02 15:35

Daniel Da	Result	Det. Limit	Units	Method	Date	Dil.
Parameter Mercury	BDL	0.00020	mg/l	7470A	11/26/02	1
Arsenic Barium Cadmium Chromium Lead Selenium Silver	0.055 0.52 BDL BDL 0.023 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/l mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B 6010B 6010B	11/28/02 11/28/02 11/28/02 11/28/02 11/28/02 11/29/02 11/29/02	1 1 1 1 1 1 1

Representative Tom Mellette,

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

December 03, 2002

ESC Sample # : L96805-14

Date Received : November 22, 2002 Description : Boeing-Tract 1 South

Site ID :

Sample ID

Project # : 510200

Collected By Collected By : J. Friesner Collection Date : 11/21/02 15:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.022	0.020	mg/kg	7471	11/25/02	1
Arsenic	2.9	0.50	mg/kg	6010B	11/28/02	1
Barium	130	0.25	mg/kg	6010B	11/28/02	ī
Cadmium	BDL	0.25	mg/kg	6010B	11/30/02	ī
Chromium	7.9	0.50	mg/kg	6010B	11/28/02	1
Lead	14.	0.25	mg/kg	6010B	11/30/02	1
Selenium	2.0	0.50	mg/kg	6010B	11/28/02	1
Silver	BDL	0.25	mg/kg	6010B	11/28/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 925, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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ESC Representative

Tom Mellette



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 03, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96805-15

Date Received :

November 22, 2002

Description

Boeing-Tract 1 South

Site ID :

Sample ID

B13E3W

Project # : 510200

Collected By : J. Friesner Collection Date : 11/21/02 15:50

	Result	Det. Limit	Units	Method	Date	Dil.	
Parameter	Result	Dec. Dillic	0111 00				
Mercury	BDL	0.00020	mg/l	7470A	11/26/02	1	
Arsenic Barium Cadmium Chromium Lead Selenium Silver	0.062 0.52 BDL BDL 0.021 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	6010B 6010B 6010B 6010B 6010B 6010B 6010B	11/28/02 11/28/02 11/28/02 11/28/02 11/28/02 11/29/02 11/29/02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

Mel/lette, Ton SC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Attachment A List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L96805-05	Barium Chromium	В J4 В
L96805-14	Barium Chromium	J 4

Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning
В	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
J4	The associated batch QC was outside the established quality control range for accuracy.
	Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by
 Relative Percent Differrence.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits

2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:		Alter	nate billing	information:				Anah	/sis/C	Conta	iner/P	rese	vative		of Custody
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REPORTO: DENNIS BIZINK	· Ի·삭	Email	p: dlpa	ntb. O	mactac.co	nn-		4	202 5/05	Vial	Q) mC		Mt. Juliet,	1
Project Description: BOLING TIZAC Phone: (314) 209-9700 FAX: (314) 209-5129		Н		ST LOUIS			Sy6 200	202 9lass		to me u	I CAMD	s 350		Phone (8	15) 758-5858 00) 767-5859 15) 758-5859
Collected by: J. PZIUSNUL	Site/Facility ID#:		P.O.#:						METALS			METR			
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Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	1	Hdl	0	8	1	00		Remarks/Contaminant	Sample # (lab only)
B4859-8					1005	1	×	¥					353	See Below	196805-01
B4859W					1115	1	校准 使用		1344 1748		X		34 48 34 35	De Nint Agilado	-02
B48510-7					1140	1	X	×						See Belon	_63
B48510W					1200	3				×	X	1		Do Not Agilate	
B13E3-6 DUP					1545	1	F		X						
BYEIW				\	1655	2				X				Do Not Achile	-00
84857W					1125	7				X				Do Not Aprilde	-07
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Report to: DENNIS BRINKLET	۲ 	Er	nail to: 416r	inkley@	mactec.	COM			70E	Amb	Jun	Some		Mt. Juliet,	TN 37122	
Project Description: BUEING TIZACT	· 1 Sour	d		St. Loui	s Mo		Szab	Szale	g	₹		Ř		1	15) 758-5858 00) 767-5859	
Phone: (314) 209-5900	Client Project #		ESC Key	<i>r</i> :			\ \c			J) W				15) 758-5859	
FAX: (314) 209-5929	51020						206	206	3	-	<u>10</u>	S		`	·	
Collected by: JACK E FRIENCE	Site/Facility ID:	#:	P.O.#:				10	` "	F			Meth				
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Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntr	14	B	00	=	(G)	20		Remarks/Contaminant	Sample # (lab only)	
83E B4E1-14		SS		11/21/02	0845	1	X	X						See Below	196805-08	
BJET BYEIW		GW			1630	ì				X	*			DO NOT AGITATE	-c9	
R13E1-6		55			1450	1	-75	7	X						-10	
BIBLIW		GW			1525	1						X		DO NOT A GITATE	11 ·	
B13E2-6		55			1520	1		-	×						-12	
BIBEZW		CW			1535	1	12.3%					X	(1) (3) (3)	DO NOT AGITAT	- Ti3	
B13E3-6		SS			1545	1)	-	×						,-14	
B13E3W		GW		7	1550	1						X		DO UOT AGITATI	1 75	
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*Matrix: SS - Soil/Solid GW - Gro	undwater WW	- \\/acto\\/a	ter DW - Dri	nking Water	OT - Other			<u></u>		<u> </u>	1-1-1-1	1	pl	T T	emp	
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Relinquished by: (Sanature)	Date	Tim		eived for lab l		re)	ideri Mari	i v		ate: /-2.2	2 <i>-</i> 02	Tir	9 Jac	pH Checked:		



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 02, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96885-01

Date Received : Description

November 23, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4E2D-10

Project # : 510200

Collected By Collection Date : Dennis Brinkley 11/22/02 09:00

	Result	Det. Limit	Units	Method	Date	Dil.
Parameter Benzene Toluene Ethylbenzene Total Xylene Methyl tert-butyl ether TPH (GC/FID) Low Fraction	BDL BDL BDL BDL BDL BDL	0.0025 0.025 0.0025 0.0075 0.0075 0.025 0.50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1 8021/OA1	11/27/02 11/27/02 11/27/02 11/27/02 11/27/02 11/27/02	5 5 5 5 5 5
OAl Surrogate a,a,a-Trifluorotoluene	100		% Rec.	8021/OA1	11/27/02	5
TPH (GC/FID) High Fraction	55.	4.0	mg/kg	3546/DRO	11/30/02	1
Surrogate Recovery (50-150) o-Terphenyl	74.		% Rec.	3546/DRO	11/30/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923 IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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ESC Representative

Mellette,



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 02, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L96885-02

Date Received : Description

November 23, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4E2DW

510200 Project # :

Yom Mellette

Collected By : Collection Date :

Dennis Brinkley 11/22/02 13:55

	Result	Det. Limit_	Units	Method	Date	Dil.
Parameter Benzene Toluene	BDL BDL	0.00050	mg/1 mg/1	8021/OA1 8021/OA1 8021/OA1	11/27/02 11/27/02 11/27/02	1 1 1
Ethylbenzene Total Xylene Methyl tert-butyl ether TPH (GC/FID) Low Fraction	BDL BDL BDL	0.00050 0.0015 0.0050 0.10	mg/l mg/l mg/l mg/l	8021/OA1 8021/OA1 8021/OA1	11/27/02 11/27/02 11/27/02	1 1 1
OAl Surrogate a,a,a-Trifluorotoluene	100		% Rec.	8021/OA1	11/27/02	1
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3510/DRO	11/27/02	1
Surrogate Recovery (50-150) o-Terphenyl	61.		% Rec.	3510/DRO	11/27/02	1

BDL - Below Detection Limit

Laboratory Certification Numbers:

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL/- E87487, GA/- 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Page 2 of 2

ESC Representative

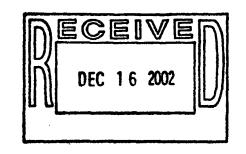
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MACTEC Have 3199 RIVERPORT ST. Coll Mo	- TECH CE) הט דסת									SCIENC	ONMENTAL CE CORP, Danon Road
Report to: DENNIS BRINKIE	4	Email t	o:								Mt. Juliet,	TN 37122
Project $BoENNO$ TR	pet 1	50074-K		T. Lovis	mo						I	15) 758-5858 00) 767-5859
Phone: FAX:	Client Project #:		ESC Key:								1	15) 758-5859
Collected by: DEW NIS BITINGLE			P.O.#:					2				
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Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs					Remarks/Contaminant	Sample # (lab only)
B4E2D-10	GRAB	5016	10'	11/24/02			X	X				10/585-
BUEZDIN	GRAS	LUATER	<u> </u>	1/27/0-2	1355	5	$\stackrel{\leftarrow}{\times}$					-02
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										(2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4		
							#2 v.r.	5-2 2-2		25		
					<u> </u>		54 (2) 5 (2) 6 (2)	1				
*Matrix: SS - Soil/Solid GW - Gro	oundwater WW -	WasteWater	DW - Drin	king Water C	OT - Other_	·				рН	Те	mp
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ENVIRONMENTAL SCIENCE CORPORATION

QUALITY/CUSTOMER SERVICE SURVEY

CLIENT INFOR		PROJECT INFORMATION Project Name:								
Client Contact		Project No.								
INTRODUCTION: We at Environmental Science Corporation would like to ask you to help us improve our service and provide better value to you our client by answering a few short questions that rate our performance on a scale of 1 to 5. A rating of "1" indicates we did NOT meet your requirements: a rating of "3" indicates we met your requirements: and a rating of "5" indicates we exceeded your requirements.										
Timeliness	Were our reports delivered on time? Did we return your calls promptly? Did we solve problems quickly?		1 1 1	2 2 2	3 3 3	4 4 4	5 5 5			
Comments:										
Quality	Did the Report meet your project requirements'	?	1 1	2 2	3	4	5 5			
Comments:		 					.54	·		
Dependability	Did we keep our promises? Did we exhibit our ability to solve problems?	?	1 1	2 2	3	4 4	5 5			
Comments:									.•	
Cooperativeness:	Were we courteous and responsive? Were we flexible? Did we take care of your issues?		1	2 2	3	4	5			
Comments:	Did we take care of your issues?		1	2	3	4	5		•	
Communication:	Were we easy to contact? Were our responses prompt and informative? Did we provide sample receipt information? Did we provide status/updates as necessary? How well did we handle emergencies?	Ì	1 1 1 1 1	2 2 2 2 2 2	3 3 3 3 3	4 4 4 4 4	5 5 5 5 5	•		
OverallPlease grad			_							
	Your Technical Service Representative (TSR) Our performance against scope Our communication Our report Our invoice	1 1 1 1		2 2 2 2 2	3 3 3 3	4 4 4 4 4	5 5 5 5 5			
by our Client Service	for your time. We very much appreciate your with Director. We would like to ask you one final questyou would like to comment on that was not cover	stion.	th	is su	rvey.	Eac	h surv	ey will	be revi	ewed
1.										
2.										
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Please return survey Fax: 615-758-5859 To email a copy, see o	by: ur web site at www.envsci.com	·								





Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 December 11, 2002

November 14, 2002

ESC Sample # : L97982-01

Date Received : Description Boeing-Tract 1 South :

Site ID :

MM Tom Mellegte,

Sample ID B2N4W

Project # : 510200

Collected By Jack E. Friesner Collection Date : 11/13/02 09:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	12/09/02	1
Arsenic	0.026	0.010	mg/l	6010B	12/10/02	1
Barium	8.5	0.0050	mg/l	6010B	12/10/02	1
Cadmium	BDL	0.0050	mg/l	6010B	12/10/02	1
Chromium	0.059	0.010	mg/1	6010B	12/10/02	1
Lead	0.025	0.0050	mg/l	6010B	12/10/02	1
Selenium	BDL	0.010	mg/l	6010B	12/10/02	1
Silver	BDL	0.0050	mg/l	6010B	12/10/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

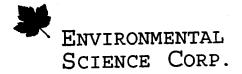
Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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CSC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 11, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L97982-02

Date Received : Description

November 14, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B2N5W

510200 Project # :

Jack E. Friesner

Collected By : Collection Date :

11/13/02 16:30

	Result	Det. Limit	Units	Method	Date	Dil.
Parameter Mercury	BDL	0.00020	mg/l	7470A	12/09/02	1
Arsenic Barium Cadmium Chromium Lead Selenium Silver	BDL 0.53 BDL 0.011 0.0059 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/l mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B 6010B 6010B 6010B	12/10/02 12/10/02 12/10/02 12/10/02 12/10/02 12/10/02 12/10/02	1 1 1 1 1

BDL - Below Detection Limit Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Tom Mellette,

ESC Representative

Company Name/Address:		Alte	mate billing	information:			797	Analysis/C	ontainer/	Preser	vative	Chain of Custody Page of
MACTEC									LTV-1			Prepared by:
MACTEC 3199 RIVERSOIRT PECH St LOUS MO 63	(COSTUPE)	R							1.7 2.7 2.8		171	ENVIRONMENTAL
Stlans MO 63	N3						¥					
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Report to: DEVNILBRINKL	EY	Emai	10: 91P	nnkleyo	Mac Cc	ری.	22					Mt. Juliet, TN 37122
Project BORNO TRACT	1 South		City/Sate Collected	Sr. 601	S		7	9				Phone (615) 758-5858
	Client Project		ESC Key					*				Phone (800) 767-5859
PGP2-POC(M2) :XA=	5102	D 3										FAX (615) 758-5859
Collected by JAKKE FZISHA	Site/Facility ID	#:	P.O.#:				5					
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	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	90	2				Remarks/Contaminant Sample # (lab only)
Sample ID	Comp/Grau		Бери	,		-	1	457.20 41.22	7			
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B2113W	 	GW	 		0940	 	X	7.27 T	ren-			
BZNZW		GW	ļ	11/12/02		+	<u>X</u>			<u> </u>		-2
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*Matrix: \$8 - SolVSolid GW - Gro	undwater WW	- WasteWate	r DW - Dri	nking Water	OT - Other_						pl	I Temp
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								力到化	l Ha			

Jasen Estes

197982

From:

Tom Mellette

Sent: To:

Friday, December 06, 2002 2:14 PM Login

Subject:

Log hold samples *HARDMO*

Importance:

High

please run the first 2 hold samples from L95861, P70046. std TAT.



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

:

November 15, 2002

ESC Sample # :

Site ID :

Project # :

Tom Mellette

L95547-01

510200

Date Received

Description

November 12, 2002 Boeing-Tract 1 South

Sample ID

B2N1-8

Collected By Collection Date: Jack E. Friesner

11/11/02 14:20

Parameter Result Det. Limit Units Method Date Dil. Mercury BDL. 0.020 mg/kg 7471 11/15/02 1 Arsenic BDL 0.50 mg/kg 6010B 11/15/02 11/15/02 mg/kg mg/kg Barium 63. 0.25 6010B 1 11/15/02 Cadmium BDL 0.25 6010B 1 11/15/02 Chromium 6.9 0.50 mg/kg 6010B 1 Lead 4.8 0.25 mg/kg 6010B 11/15/02 1 Selenium BDL 0.50 mg/kg 6010B 11/15/02 1 mg/kg Silver BDL 0.25 6010B 11/15/02

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 973, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 15, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L95547-02

Date Received : Description

November 12, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

510200 Project # :

Collected By : Jack E. Friesner Collection Date : 11/11/02 16:15

60116001010 1000	Result	Det. Limit	Units	Method	Date	Dil.	_
Parameter Mercury	0.00033	0.00020	mg/l	7470A	11/14/02	1	
Arsenic Barium Cadmium Chromium Lead Selenium Silver	BDL 1.3 BDL 0.040 0.079 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/l mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B 6010B 6010B 6010B	11/14/02 11/14/02 11/14/02 11/14/02 11/14/02 11/14/02 11/14/02	1 1 1 1 1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted.

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Page 2 of 5

Representative Tom Mellette



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 15, 2002

ESC Sample # : L95547-03

November 12, 2002 Boeing-Tract 1 South

Description

Sample ID

B4153DW

Collected By Collection Date :

Date Received :

Jack E. Friesner 11/11/02 11:50

Project # : 510200

Site ID :

Tom

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0020	mq/1	8270C	11/14/02	2
Acenaphthene	BDL	0.0020	mg/1	8270C	11/14/02	2
Acenaphthylene	BDL	0.0020	mg/1	8270C	11/14/02	2
Benzo (a) anthracene	\mathtt{BDL}	0.0020	mg/l	8270C	11/14/02	2
Benzo (a) pyrene	BDL	0.0020	mg/l	8270C	11/14/02	2
Benzo(b) fluoranthene	BDL	0.0020	mg/l	8270C	11/14/02	2
Benzo(g,h,i)perylene	BDL	0.0020	mg/l	8270C	11/14/02	2
Benzo(k) fluoranthene	BDL	0.0020	mg/l	8270C	11/14/02	2
Chrysene	BDL	0.0020	mg/l	8270C	11/14/02	2
Dibenz(a,h)anthracene	BDL	0.0020	mg/l	8270C	11/14/02	2
Fluoranthene	\mathtt{BDL}	0.0020	mg/l	8270C	11/14/02	2
Fluorene	BDL	0.0020	mg/l	8270C	11/14/02	2
Indeno(1,2,3-cd)pyrene	BDL	0.0020	mg/l	8270C	11/14/02	2
Naphthalene	\mathtt{BDL}	0.0020	mg/l	8270C	11/14/02	2
Phenanthrene	BDL	0.0020	mg/1	8270C	11/14/02	2
Pyrene	BDL	0.0020	mg/l	8270C	11/14/02	2
Surrogate Recovery			<u> </u>		, ,	
Nitrobenzene-d5	75.		% Rec.	8270C	11/14/02	2
2-Fluorobiphenyl	87.		% Rec.	8270C	11/14/02	2
p-Terphenyl-d14	83.		% Rec.	8270C	11/14/02	2

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923, IN - C-TN-0:

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 923, IN - C-TN-01 Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative

Attachment A List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L95547-01	Lead Silver	J4 B
	Lead	J4
L95547-02 L95547-03	Anthracene	0
	Acenaphthene	0 0 0
	Acenaphthylene	0
	Benzo(a) anthracene	0
	Benzo (a) pyrene Benzo (b) fluoranthene	0
	Benzo (b) I I doranthene	0
	Benzo(g,h,i)perylene Benzo(k)fluoranthene	0
	Benzo (K) IIuoranchene	0
	Chrysene Dibenz(a,h)anthracene	0
	Fluoranthene	0
	Fluoranchene Fluorene	0
	Indeno(1,2,3-cd)pyrene	0
	Naphthalene	0
	Phenanthrene	0
	Pyrene	0
	Nitrobenzene-d5	0
	2-Fluorobiphenyl	0
	p-Terphenyl-d14	0

Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning
В	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
J4	The associated batch QC did not successfully meet the established quality control criteria for accuracy.
o , ,	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by

 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits
- 2-Fluorophenol 31-119 Nitrobenzene-d5 43-118 Dibromfluoromethane 72-125 Phenol-d5 12-134 2-Fluorobiphenyl 45-128 Toluene-d8 79-120 2,4,6-Tribromophenol 51-141 Terphenyl-d14 43-137 4-Bromofluorobenzene 66-131
- TIC Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:		Alte	Alternate billing information:				Analysis/Container/Preservative Chai				Chain of Custody			
MACTEC 3199 RIVERPORT TECH	<i>C</i> '											Pro	epared by:	Page of
3199 RIVERPORT TEC	H (K MLR)	DR					25		CLASS				Enviro	NMENTAL.
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Report to: DENNIS BRINK	iley	Emai	i 10: 11 b1	inkleuc	marter	COM	56	j.	ત				Mt. Juliet, 7	
Project Description: Busines Tract South City/Sate S. Louis MD										•	(5) 758-5858			
Phone: (314) 209-5900	Client Project #		ESC Key:				METALS		1					00) 767-5859 15) 758-5859
FAX: (314) 201-5929	51020		PO#			E		Z				(0.	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Collected by Jack E FRIENDS	Site/Facility ID	#: 	P.O.#:	<u>.</u>			\$		METALS					
Collected by (signature):	Sa	b MUST Be Name Day	200% . 100%	Email?f	No <u>X</u> Yes	No.	RCRA		RCRA 1				oCode emplate/Prelogin	(lab use only)
Packed on Ice N Y X		<u> </u>		FAX?I	NOX_TES	Cntrs	(3)	PAF	8			SI	hipped Via:	
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time		(a)	(7	4	1,132. 4,134		Ren	narks/Contaminant	Sample # (lab only)
B2N1-8		SS		11/11/02	1420				X					195547-0
B2V1W		6W	ļ	1/11/02	1615		X			NAV.		See	Le lan	<u>- سح</u>
B41530W		6W		11/11/02	1150			X						-3
	-		ļ	'		ļ				(1) (1) (2) (2) (3)			· · · · · · · · · · · · · · · · · · ·	
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*Matrix: SS - Soil/Solid GW - Grou			_	-	-						pН	<u> </u>	Ten	np
Remarks: Do NOT AC	HIATE C	52NIW	J Price	e to	MALY!	212					Flo	ow	Oth	er
Relinquished by: (Signature)	Date:		D RICH	gh y sigh	TO TO T		•		Samp Fed	les returned IEx Couri	^{via:} □ UPS er □		Condition:	(lab use only)
Relinquished by: (Signature)	Date	Time:		ved by: (Signa		2			Temp	3.80	Bottles Rec	eived:		
Relinquished by: (Signature)	Date	Time:	Rece	ved/for lab b		N _	//,		Date	1. 1.	Time:	, /)	pH Checked:	NCI.



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-01

Date Received : Description

November 09, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B2WI-6

Collected By Collection Date :

Jack E Friesner 11/08/02 10:00

Project # : 510200

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.020	mg/kg	7471	11/13/02	1
Arsenic	1.4	0.50	mg/kg	6010B	11/15/02	1
Barium	120	0.25	mg/kg	6010B	11/15/02	1
Cadmium	\mathtt{BDL}	0.25	mg/kg	6010B	11/15/02	1
Chromium	12.	0.50	mg/kg	6010B	11/15/02	1
Lead	6.8	0.25	mg/kg	6010B	11/15/02	1
Selenium	\mathtt{BDL}	0.50	mg/kg	6010B	11/15/02	1
Silver	BDL	0.25	mg/kg	6010B	11/15/02	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Acenaphthene	BDL	0.033	mg/kg	8270C	11/11/02	
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Benzo(a) anthracene	BDL	0.033	mq/kg	8270C	11/11/02	ĭ
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1 1 1 1
Benzo(b) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Fluorene	BDL	0.033	mg/kg	8270C	11/11/02	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Naphthalene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Phenanthrene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Surrogate Recovery					,,	_
Nitrobenzene-d5	38.		% Rec.	8270C	11/11/02	1
2-Fluorobiphenyl	48.		% Rec.	8270C	11/11/02	ī
p-Terphenyl-d14	58.		% Rec.	8270C;	11/11/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 A - 923, IN - C-TN-01 Note:

The reported analytical results relate only to the sample submitted.

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ESC Representative

om Mellatte



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-02

510200

Date Received :

November 09, 2002 :

Site ID :

Description

Boeing-Tract 1 South

Project # :

Sample ID

B2I1-8

Collected By Collection Date :

Jack E Friesner 11/08/02 14:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
Mercury	BDL	0.020	mg/kg	7471	11/13/02	1	
Arsenic ,	8.9	0.50	mg/kg	6010B	11/15/02	1	
Barium	92.	0.25	mg/kg	6010B	11/15/02	1	
Cadmium	BDL	0.25	mg/kg	6010B	11/15/02	1	
Chromium	18.	0.50	mg/kg	6010B	11/15/02	1	
Lead	10.	0.25	mq/kq	6010B	11/15/02	1	
Selenium	BDL	0.50	mg/kg	6010B	11/15/02	ī	
Silver	BDL	0.25	mg/kg	6010B	11/15/02	1	
Polynuclear Aromatic Hydrocarbons							
Anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Acenaphthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(a) anthracene	BDL	0.033	mg/kg	8270C	11/11/02	ī	- 1
Benzo(a) pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1	•
Benzo(b) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Fluorene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02		
Naphthalene	BDL	0.033	mg/kg	8270C	11/11/02	1 1 1	
Phenanthrene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Pyrene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Surrogate Recovery		0.000			22, 22, 02	-	
Nitrobenzene-d5	48.		% Rec.	8270C	11/11/02	1	
2-Fluorobiphenyl	60.		% Rec.	82/OC	11/11/02	î	
p-Terphenyl-dl4	63.		% Rec.	8270C \	11/11/02	î	
p suspinger use			,	[11, 11, 02	•	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

CSC Representative

om Mellette,



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

Site ID :

ESC Sample # : L95385-03

Date Received :

November 09, 2002

Description

Boeing-Tract 1 South :

Sample ID

B4IN1-8

Collected By : Collection Date :

Jack E Friesner 11/08/02 13:15

Project # : 510200

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Acenaphthene	\mathtt{BDL}	0.033	mg/kg	8270C	11/11/02	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo (a) pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(b) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	1
Dibenz (a, h) anthracene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Fluorene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Naphthalene	BDL	0.033	mg/kg	8270C	11/11/02	า
Phenanthrene	BDL	0.033	mg/kg	8270C	11/11/02	î
Pyrene	BDL	0.033	mg/kg	8270C	11/11/02	i
Surrogate Recovery	מטפ	0.055	"g/ kg	02700	11/11/02	-
Nitrobenzene-d5	34.		% Rec.	8270C	11/11/02	1
	53.		% Rec.	8270C 8270C	11/11/02	1
2-Fluorobiphenyl						1
p-Terphenyl-dl4	57.		% Rec.	8270C	11/11/02	T

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative

Tom Mellecke,



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

November 15, 2002

ESC Sample # : L95385-04

Date Received

November 09, 2002

Site ID :

Description

Boeing-Tract 1 South

Sample ID

B4IS3D-4

510200 Project # :

Tom Mellerte,

Collected By : Jack E Friesne: Collection Date : 11/07/02 13:20 Jack E Friesner

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
Polynuclear Aromatic Hydrocarbons							
Anthracene	\mathtt{BDL}	0.033	mg/kg	8270C	11/11/02	1	
Acenaphthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(a) anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(a) pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(b) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(g,h,i) perylene	BDL	0.033	mg/kg	8270C	11/11/02	1	
	BDL	0.033	mg/kg	8270C	11/11/02	1	
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	1	
Dibenz (a, h) anthracene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Fluorene		0.033	mg/kg	8270C	11/11/02	ī	
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	ī	
Naphthalene	BDL		g/kg	8270C	11/11/02	î	
Phenanthrene	BDL	0.033	mg/kg			i	
Pyrene	BDL	0.033	mg/kg	8270C	11/11/02	Τ.	
Surrogate Recovery					77 /77 /00	-	
Nitrobenzene-d5	46.		% Rec.	8270C	11/11/02	1	
2-Fluorobiphenyl	59.		% Rec.	8270C	11/11/02	1	
p-Terphenyl-dl4	60.		% Rec.	8270C	11/11/02	1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 922, IN - C-TN-016, YP - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 - 922, IN - C-TN-01

Note: The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Representative

ESC



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-05

Date Received

November 09, 2002

Description

Boeing-Tract 1 South

Sample ID

B4ISI-6

Collected By Collection Date:

Jack E Friesner 11/07/02 10:20

Site ID :

M

om Mellette

Project # : 510200

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	\mathtt{BDL}	0.033	mg/kg	8270C	11/11/02	1
Acenaphthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo (a) anthracene	BDL	0.033	mq/kq	8270C	11/11/02	1
Benzo (a) pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(b) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(q,h,i)perylene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	1
Dibenz(a,h)anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Fluorene	BDL	0.033	mg/kg	8270C	11/11/02	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Naphthalene	BDL	0.033	mg/kg	8270C	11/11/02	1
Phenanthrene	BDL	0.033	mg/kg	8270C	11/11/02	ī
Pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Surrogate Recovery			J. J		,	
Nitrobenzene-d5	53.		% Rec.	8270C	11/11/02	1
2-Fluorobiphenyl	59.		% Rec.	8270C	11/11/02	1
p-Terphenyl-d14	57.		% Rec.	8270C	11/11/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, CA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 923, IN - C-TN-01

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 15, 2002

ESC Sample # : L95385-06

Date Received : Description

November 09, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

B4IS2-4

Project # : 510200

Tom Mellette,

Collected By

Jack E Friesner

Collection Date :

11/07/02 11:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Acenaphthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Acenaphthylene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(a)anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(a)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(b)fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(g,h,i)perylene	BDL	0.033	mg/kg	8270C	11/11/02	1
Benzo(k) fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Chrysene	BDL	0.033	mg/kg	8270C	11/11/02	1
Dibenz (a,h) anthracene	BDL	0.033	mg/kg	8270C	11/11/02	1
Fluoranthene	BDL	0.033	mg/kg	8270C	11/11/02	1
Fluorene	BDL	0.033	mg/kg	8270C	11/11/02	1
Indeno(1,2,3-cd)pyrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Naphthalene	BDL	0.033	mg/kg	8270C	11/11/02	1
Phenanthrene	BDL	0.033	mg/kg	8270C	11/11/02	1
Pyrene	\mathtt{BDL}	0.033	mg/kg	8270C	11/11/02	1
Surrogate Recovery			• -			
Nitrobenzene-d5	49.		% Rec.	8270C	11/11/02	1
2-Fluorobiphenyl	53.		<pre>% Rec.</pre>	8270C	11/11/02	1
p-Terphenyl-d14	57.		% Rec.	8270C	11/11/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E8 487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 15, 2002

November 09, 2002

ESC Sample # : L95385-07

Date Received Description

Boeing-Tract 1 South

Site ID :

Sample ID

B44NI-9

Project # : 510200

Collected By Collection Date :

Jack E Friesner 11/07/02 15:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.094	0.020	mg/kg	7471	11/13/02	ı
Arsenic	2.0	0.50	mg/kg	6010B	11/15/02	1
Barium	110	0.25	mq/kq	6010B	11/15/02	ï
Cadmium	BDL	0.25	mg/kg	6010B	11/15/02	1
Chromium	13.	0.50	mg/kg	6010B	11/15/02	ī
Lead	10.	0.25	mg/kg	6010B	11/15/02	ī
Selenium	BDL	0.50	mg/kg	6010B	11/15/02	ī
Silver	BDL	0.25	mg/kg	6010B	11/15/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA \$23, IN - C-TN-01 2006, VA - 00109, WV - 233 Note:

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Page 7 of 15

<u>MY.</u> ESC Representative Tom Mel/ette



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

November 15, 2002

ESC Sample # : L95385-08

Date Received

November 09, 2002

Description

Boeing-Tract 1 South

Site ID :

Sample ID

B4IN1W

Project # : 510200

Tom Mellette.

Collected By Jack E Friesner Collection Date : 11/08/02 15:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
Polynuclear Aromatic Hydrocarbons							
Anthracene	\mathtt{BDL}	0.0010	mg/1	8270C	11/13/02	1	
Acenaphthene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Acenaphthylene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Benzo (a) anthracene	\mathtt{BDL}	0.0010	mg/l	8270C	11/13/02	1	
Benzo(a)pyrene	\mathtt{BDL}	0.0010	mg/1	8270C	11/13/02	1	
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Benzo(q,h,i)perylene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Benzo(k) fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Chrysene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Fluorene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/1	8270C	11/13/02	1	
Naphthalene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Phenanthrene	BDL	0.0010	mg/l	8270C	11/13/02	1	
Pyrene	BDL	0.0010	mg/1	8270C	11/13/02	1	
Surrogate Recovery			٥.				
Nitrobenzene-d5	64.		% Rec.	8270C	11/13/02	1	
2-Fluorobiphenyl	71.		% Rec.	8270C	11/13/02	1	
p-Terphenyl-d14	93.		% Rec.	8270C	11/13/02	1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 15, 2002

Date Received

November 09, 2002

ESC Sample # : L95385-09

Description

Boeing-Tract 1 South

Site ID :

Sample ID

B2W1W

Project # : 510200

m

Mel/ette,

Tom

Collected By Collection Date :

Jack E Friesner 11/08/02 13:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	11/14/02	1
Arsenic	BDL	0.010	mg/l	6010B	11/14/02	1
Barium	0.50	0.0050	mg/l	6010B	11/14/02	1
Cadmium	BDL	0.0050	mg/1	6010B	11/14/02	1
Chromium	0.010	0.010	mg/1	6010B	11/14/02	1
Lead	BDL	0.0050	mg/l	6010B	11/14/02	1
Selenium	BDL	0.010	mg/l	6010B	11/14/02	1
Silver	BDL	0.0050	mg/l	6010B	11/14/02	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/1	8270C	11/13/02	1
Acenaphthene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Acenaphthylene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Benzo(a) pyrene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Benzo (b) fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Benzo(k) fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Chrysene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Fluoranthene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Fluorene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Naphthalene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Phenanthrene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Pyrene	BDL	0.0010	mg/l	8270C	11/13/02	ī
Surrogate Recovery			5, -		,,	_
Nitrobenzene-d5	71.		% Rec.	8270C	11/13/02	1
2-Fluorobiphenyl	79.		% Rec.	8270C	11/13/02	ī
p-Terphenyl-d14	82.		% Rec.	8270C/	11/13/02	ī

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ECC Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

:

November 15, 2002

ESC Sample # : L95385-10

Date Received :

November 09, 2002 Boeing-Tract 1 South

Site ID :

DW 1 om Mellette,

Description Sample ID

B4IS1W

Project # : 510200

Collected By

Jack E Friesner

Collection Date :

11/07/02 14:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/l	8270C	11/12/02	1
Acenaphthene	BDL	0.0010	mg/l	8270C	11/12/02	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	11/12/02	1
Benzo (a) anthracene	BDL	0.0010	mg/1	8270C	11/12/02	1
	BDL	0.0010	mq/1	8270C	11/12/02	1
Benzo (a) pyrene	BDL	0.0010	mg/l	8270C	11/12/02	1
Benzo(b) fluoranthene	BDL	0.0010	mg/l	8270C	11/12/02	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	11/12/02	ī
Benzo(k) fluoranthene			mg/1	8270C	11/12/02	ī
Chrysene	BDL	0.0010		8270C 8270C	11/12/02	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l			1
Fluoranthene	BDL	0.0010	mg/l	8270C	11/12/02	Ť
Fluorene	\mathtt{BDL}	0.0010	mg/l	8270C	11/12/02	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	11/12/02	1
Naphthalene	BDL	0.0010	mg/l	8270C	11/12/02	1
Phenanthrene	BDL	0.0010	mg/1	8270C	11/12/02	1
	BDL	0.0010	mg/1	8270C	11/12/02	1
Pyrene			٥,			
Surrogate Recovery	51.		% Rec.	8270C	11/12/02	1
Nitrobenzene-d5	62.		% Rec.	8270C	11/12/02	1
2-Fluorobiphenyl			% Rec.	8270C	11/12/02	ī
p-Terphenyl-d14	95.		a Rec.	02 / UC	11/12/02	•

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2005, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Page 10 of 15

ESQ Representative



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-11

November 09, 2002 Boeing-Tract 1 South

Site ID :

DW Ton

Mellette.

Project # : 510200

Sample ID B4IS2W

Collected By Jack E Friesner Collection Date : 11/07/02 14:40

Date Received

Description

Det. Limit Parameter Result Units Method Date Dil. Polynuclear Aromatic Hydrocarbons mg/lAnthracene BDL 0.0010 8270C 11/12/02 1 BDL 0.0010 Acenaphthene 8270C 11/12/02 mg/11 BDL 8270C Acenaphthylene 0.0010 mg/111/12/02 1 mg/1Benzo(a) anthracene BDL 0.0010 8270C 11/12/02 1 Benzo(a)pyrene Benzo(b)fluoranthene BDL 0.0010 8270C 11/12/02 mg/11 BDL 0.0010 mg/l 8270C 11/12/02 1 Benzo(g,h,i)perylene BDI. 0.0010 8270C mg/111/12/02 1 8270C Benzo(k) fluoranthene BDL 0.0010 mg/111/12/02 1 Chrysene BDL 0.0010 mg/18270C 11/12/02 1 Dibenz (a, h) anthracene BDL 0.0010 mg/18270C 11/12/02 1 Fluoranthene BDL mg/10.0010 8270C 11/12/02 1 8270C Fluorene BDI. mg/10.0010 11/12/02 1 Indeno(1,2,3-cd)pyrene BDL 0.0010 mg/18270C 11/12/02 1 Naphthalene BDL 0.0010 mg/l 8270C 11/12/02 1 Phenanthrene BDL 0.0010 8270C 11/12/02 mg/11 Pyrene 11/12/02 BDI. 0.0010 mg/18270C 1 Surrogate Recovery Nitrobenzene-d5 68. % Rec. 8270C 11/12/02 2-Fluorobiphenyl 8270C 76. % Rec. 11/12/02 1 p-Terphenyl-d14 110 % Rec. 8270C 11/12/02

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - EB787, GA - 923,

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00 IN - C-TN-01 ∕00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Representative

ESC



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-12

Date Received : Description

November 09, 2002 Boeing-Tract 1 South

Site ID :

510200 Project # :

Sample ID

B44NIW

Collected By Jack E Friesner Collection Date : 11/08/02 16:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	_
Mercury	BDL	0.00020	mg/l	7470A	11/14/02	1	
Arsenic Barium Cadmium Chromium Lead Selenium Silver	0.10 0.96 BDL 0.064 0.11 BDL BDL	0.010 0.0050 0.0050 0.010 0.0050 0.010 0.0050	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	6010B 6010B 6010B 6010B 6010B 6010B 6010B	11/14/02 11/14/02 11/14/02 11/14/02 11/14/02 11/14/02 11/14/02	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

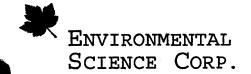
KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative

Mellette,

Топ



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 15, 2002

ESC Sample # : L95385-13

Site ID :

Project # : 510200

Date Received November 09, 2002 Description Boeing-Tract 1 South

Sample ID

B2I1W

Collected By Collection Date : Jack E Friesner 11/08/02 16:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	11/14/02	1
Arsenic	BDL	0.010	mg/l	6010B	11/14/02	1
Barium	0.50	0.0050	mg/1	6010B	11/14/02	1
Cadmium	\mathtt{BDL}	0.0050	mg/l	6010B	11/14/02	1
Chromium	0.032	0.010	mg/1	6010B	11/14/02	1
Lead	0.013	0.0050	mg/1	6010B	11/14/02	1
Selenium	BDL	0.010	mg/1	6010B	11/14/02	1
Silver	BDL	0.0050	mg/1	6010B	11/14/02	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.010	mg/l	8270C	11/13/02	10
Acenaphthene	BDL	0.010	mg/1	8270C	11/13/02	10
Acenaphthylene	BDL	0.010	mg/l	8270C	11/13/02	10
Benzo (a) anthracene	BDL	0.010	mg/l	8270C	11/13/02	10
Benzo(a) pyrene	BDL	0.010	mg/l	8270C	11/13/02	10
Benzo(b) fluoranthene	BDL	0.010	mg/l	8270C	11/13/02	10
Benzo(g,h,i)perylene	BDL	0.010	mg/l	8270C	11/13/02	10
Benzo(k) fluoranthene	BDL	0.010	mg/l	8270C	11/13/02	10
Chrysene	BDL	0.010	mg/l	8270C	11/13/02	10
Dibenz(a,h)anthracene	BDL	0.010	mg/1	8270C	11/13/02	10
Fluoranthene	BDL	0.010	mg/l	8270C	11/13/02	10
Fluorene	BDL	0.010	mg/1	8270C	11/13/02	10
Indeno(1,2,3-cd)pyrene	BDL	0.010	mg/1	8270C	11/13/02	10
Naphthalene	BDL	0.010	mg/l	8270C	11/13/02	10
Phenanthrene	BDL	0.010	mg/l	8270C	11/13/02	10
Pyrene	BDL	0.010	mg/l	8270C	11/13/02	10
Surrogate Recovery			J.		1	
Nitrobenzene-d5	69.		% Rec.	8270C	11/13/02	10
2-Fluorobiphenyl	76.		% Rec.	82/10C	11/13/02	10
p-Terphenyl-d14	99.		% Rec.	8270C	11/13/02	10

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923 N - C-TN-0:

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 M - C-TN-01

The reported analytical results relate only to the sample submitted.

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ESC Representative

Mellette

Attachment A List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L95385-01	Mercury	J4
	Silver	В
	Nitrobenzene-d5	J2
L95385-02	Silver	B
L95385-03	Nitrobenzene-d5	J2
L95385-07	Mercury	J4
1 33303 C.	Silver	В
L95385-09	Chromium	J4
D93303-09	Silver	J 4
L95385-12	Chromium	J 4
D93363-12	Silver	. ј4
L95385-13	Chromium	J4
T32382-T3	Silver	J4

Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning
В	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J4	The associated batch QC did not successfully meet the established quality control criteria for accuracy.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by

 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

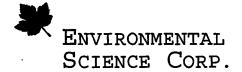
 Control Limits

2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:		Alter	nate billing	information:			Sec. 4	Analy	sis/Cor	tainer/Pres	ervative		Chain of Custody Page of
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St. Louis MU 6	3043					-						ł	CE CORP.
												1	banon Road
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Project BOETUC-TRACT	1 South			T Louis		-						1	15) 758-5858
Phone: B14) 209-5900	Client Project #	<u>:</u>	ESC Key:				3	İ				1	00) 767-5859 515) 758-5859
FAX: (314) 209-5929	5100€	<u> </u>					1					IAX (c	115) 150-5057
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B41530-4		52		11/7/3	1320	1		X					-04
B4151-6		SS		11/70	2 1020	1		X				* SEE ROMARK	5 -05
B4152-4		SS		11/7/02	1140			X		· · · · · · · · · · · · · · · · · · ·			- 06
B44N1-9		SS		11/8/02	1515	$\perp 1$	X						-07
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*Matrix: SS - Soil/Solid GW - Gro	undwater WW	- WasteWater	DW - Drin	king Water	OT - Other_						pН	Te	emp
Remarks: 2-2-02 440	US JAR	S IUST	EAD C	OF 1, 1	HOZ	1					Flo	w O	ther
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Relinquished by: (Signature)	Date			ved by: (Sigi	nature	<u> </u>			Temp	50	Bottles Rece	ived:	· DE
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Company Name/Address:			terriate oming i	inomiauon.								Bronned by	Page of
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		i										1	banon Road
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REPORT TO: DENNIS BRINKLE		 				-01-	5.75					.}	
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FAX: (314) 209-5929	51020						AMB	-7					
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Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	1	$ \infty $				Remarks/Contaminant	Sample # (lab only)
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Bawiw		6R)		11/8/02	101			X					-9
R41SIW		GW		11/7/02	11-0	1	X						-10
Bylszw		المالك		11/7/01	1440	1	X						700
BY4 NIW		GW		11/8/02		1		X					-12
B2I1N		GW		11/8/02		2	X	X		733.14 13724.	143, 040 10, 043 143, 44		-13
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*Matrix: \$\$ - Soil/Solid GW - Gro	undwater WW	- WasteWate	er DW - Drin	ıking Water	OT - Other	ـــــــــــــــــــــــــــــــــــــ	<u> </u>	<u> </u>	<u> 100 (545) .</u>	[maga-484]	pli		emp
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 08, 2002

ESC Sample # : L94638-01

Date Received : November 02, 2002
Description : Boeing-Tract 1 South

Site ID :

Project # : 510200

Sample ID MW-5

Collected By : C. Tedder Collection Date : 11/01/02 09:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.	
Volatile Organics							
Acetone	BDL	0.050	mq/1	8260B	11/06/02	1	
Acrolein	BDL	0.050	mg/l	8260B	11/06/02	ī	
Acrylonitrile	BDL	0.050	mg/l	8260B	11/06/02	ī	
Benzene	BDL	0.0010	mg/l	8260B	11/06/02	<u> 1</u>	
Bromobenzene	BDL	0.0010	mg/l	8260B	11/06/02	ī	
Bromodichloromethane	BDL	0.0010	mg/1	8260B	11/06/02	ī	
Bromoform	BDL	0.0010	mg/l	8260B	11/06/02	1	
Bromomethane	BDL	0.0010	mg/1	8260B	11/06/02	1	
n-Butylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1	
sec-Butylbenzene	BDL	0.0010	mq/l	8260B	11/06/02	1	
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1	
Carbon tetrachloride	BDL	0.0010	mg/1	8260B	11/06/02	1	
Chlorobenzene	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1	_
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
Chloroethane	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1	
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	11/06/02	1	
Chloroform	\mathtt{BDL}	0.0050	mg/l	8260B	11/06/02	1	
Chloromethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	11/06/02	1	
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,2-Dibromo-3-Chloropropane	BDL	0.0020	mg/l	8260B	11/06/02	1	
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
Dibromomethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,2-Dichlorobenzene	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1	
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,4-Dichlorobenzene	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1	
Dichlorodifluoromethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,1-Dichloroethane	0.098	0.0010	mg/l	8260B	11/06/02	1	
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,1-Dichloroethene	0.010	0.0010	mg/1	8260B	11/06/02	1	
cis-1,2-Dichloroethene	0.0064	0.0010	mg/l	8260B	11/06/02	1	
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	11/06/02	1	
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1	
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/06/02	1	
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/06/02	1	
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1	
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	11/06/02	1	

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 08, 2002

ESC Sample # : L94638-01

Date Received : November 02, 2002
Description : Boeing-Tract 1 South

Site ID :

Sample ID : MW-5 Project # : 510200

Collected By : C. Tedder Collection Date : 11/01/02 09:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
Hexachlorobutadiene	BDL	0.0010	mg/l	8260B	11/06/02	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	11/06/02	1
2-Butanone (MEK)	BDL	0.050	mg/1	8260B	11/06/02	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/06/02	1
4-Methyl-2-pentanone (MIBK)	BDL	0.050	mg/l	8260B	11/06/02	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	11/06/02	1
Naphthalene	BDL	0.0050	mg/l	8260B	11/06/02	1
n-Propylbenzene	BDL	0.0010	mg/1	8260B	11/06/02	1
Styrene	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1 1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/1	8260B	11/06/02	1
1,1,2,2-Tetrachloroethane	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1
Tetrachloroethene	0.0048	0.0010	mg/1	8260B	11/06/02	1
Toluene	BDL	0.0050	mg/1	8260B	11/06/02	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
1,2,4-Trichlorobenzene	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1
1,1,1-Trichloroethane	BDL	0.0010	mg/1	8260B	11/06/02	1 1
1,1,2-Trichloroethane	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1
Trichloroethene	0.0024	0.0010	mg/l	8260B	11/06/02	1
Trichlorofluoromethane	BDL	0.0010	mg/1	8260B	11/06/02	1
1,2,3-Trichloropropane	BDL	0.0010	mq/1	8260B	11/06/02	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/1	8260B	11/06/02	1
Vinyl chloride	0.0074	0.0010	mg/1	8260B	11/06/02	1
Xylenes, Total	BDL	0.0030	mg/1	8260B	11/06/02	1
Surrogate Recovery			٥.			
Toluene-d8	99.		% Rec.	8260B	11/06/02	1
Dibromofluoromethane	110		% Rec.	8260B	11/06/02	1
4-Bromofluorobenzene	130		% Rec.	8260B	11/06/02	1
TPH (GC/FID) High Fraction	0.18	0.10	mg/l	3510/DRO	11/06/02	1
Surrogate Recovery (50-150)						
o-Terphenyl	120		% Rec.	3510/DRO	11/06/02	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/1	8270C	11/05/02	1
Acenaphthene	BDL	0.0010	mg/l	8270C	11/05/02	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	11/05/02	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	11/05/02	1
			-			

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 08, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L94638-01

Date Received Description

Collected By

November 02, 2002

Boeing-Tract 1 South

Sample ID

C. Tedder 11/01/02 09:25 Project # : 510200

Site ID :

Collection Date: 11/01/02 09:25	Dogult	Det Limit	Units	Method	Date	Dil.
Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene Pyrene Surrogate Recovery Nitrobenzene-d5 2-Fluorobiphenyl	Result BDL BDL BDL BDL BDL BDL BDL BDL BDL BD	Det. Limit 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	Method 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C 8270C	11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02 11/05/02	Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

ESC Representative Tom Mellette,

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043 November 08, 2002

ESC Sample # : L94638-02

Date Received : Description

November 02, 2002 Boeing-Tract 1 South

Site ID :

MW-7

Project # : 510200

Sample ID

C. Tedder
11/01/02 10:25 Collected By Collection Date:

1	Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1	Volatile Organics						
	Acetone	\mathtt{BDL}	0.050	mg/l	8260B	11/06/02	1
	Acrolein	BDL	0.050	mg/l	8260B	11/06/02	1
	Acrylonitrile	BDL	0.050	mg/l	8260B	11/06/02	1
	Benzene	BDL	0.0010	mg/1	8260B	11/06/02	1
	Bromobenzene	BDL	0.0010	mg/1	8260B	11/06/02	1
	Bromodichloromethane	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1
	Bromoform	\mathtt{BDL}	0.0010	mq/1	8260B	11/06/02	1
	Bromomethane	BDL	0.0010	mg/l	8260B	11/06/02	1
	n-Butylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
	sec-Butylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
	tert-Butylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
	Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/06/02	1
	Chlorobenzene	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1
•	Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/06/02	1
•	Chloroethane	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1
	2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	11/06/02	1
	Chloroform	BDL	0.0050	mg/l	8260B	11/06/02	1
	Chloromethane	BDL	0.0010	mg/1	8260B	11/06/02	1
	2-Chlorotoluene	BDL	0.0010	mg/l	8260B	11/06/02	1
	4-Chlorotoluene	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,2-Dibromo-3-Chloropropane	\mathtt{BDL}	0.0020	mg/l	8260B	11/06/02	1
	1,2-Dibromoethane	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1
	Dibromomethane	BDL	0.0010	mg/1	8260B	11/06/02	1
	1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,3-Dichlorobenzene	BDL	0.0010	mg/1	8260B	11/06/02	1
	1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
	Dichlorodifluoromethane	\mathtt{BDL}	0.0010	mg/l	8260B	11/06/02	1
	1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/06/02	1
	cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/06/02	1
	trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1
	1,1-Dichloropropene	BDL	0.0010	mg/1	8260B	11/06/02	1
	1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1
	cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/06/02	1
	trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/06/02	1
	2,2-Dichloropropane	BDL	0.0010	mg/l	8260B		1
	Di-isopropyl ether	BDL	0.0010	mg/l	8260B	11/06/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

ESC Sample # : L94638-02

Date Received : November 02, 2002 Boeing-Tract 1 South Description

November 08, 2002

: MW-7 Sample ID

Project # : 510200

Site ID :

Collected By : C. Tedder Collection Date : 11/01/02 10:25

	Result	Det. Limit	Units	Method	Date	Dil.
cameter			/7	8260B	11/06/02	1
Sthylbenzene	BDL	0.0010	mg/l	8260B 8260B	11/06/02	ī
Hexachlorobutadiene	BDL	0.0010	mg/l	8260B	11/06/02	1
Isopropylbenzene	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1
o-Isopropyltoluene	\mathtt{BDL}	0.0010	mg/1	8260B	11/06/02	1
2-Butanone (MEK)	\mathtt{BDL}	0.050	mg/1	8260B	11/06/02	1
Methylene Chloride	BDL	0.0050	mg/1	8260B	11/06/02	ī
-Methyl-2-pentanone (MIBK)	BDL	0.050	mg/1	8260B	11/06/02	ī
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	11/06/02	ī
Naphthalene	BDL	0.0050	mg/l		11/06/02	ī
n-Propylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	ī
Styrene	BDL	0.0010	mg/l	8260B	11/06/02	ī
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/06/02	î
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/06/02	î
Tetrachloroethene	BDL	0.0010	mg/1	8260B	11/06/02	i
	BDL	0.0050	mg/l	8260B		1
Toluene	BDL	0.0010	mg/l	8260B	11/06/02	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
1,1,1-Trichloroethane	BDL	0.0010	mq/l	8260B	11/06/02	1
1,1,2-Trichloroethane	BDL	0.0010	mg/1	8260B	11/06/02	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/06/02	1
Trichlorofluoromethane	BDL	0.0010	mg/l	8260B	11/06/02	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	11/06/02	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	11/06/02	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/1	8260B	11/06/02	1
Vinyl chloride	BDL	0.0030	mg/l	8260B	11/06/02	1
Xylenes, Total	יזתם	0.0030				
rrogate Recovery	00		% Rec.	8260B	11/06/02	1
Toluene-d8	99.		% Rec.	8260B	11/06/02	1
Dibromofluoromethane	110		% Rec.	8260B	11/06/02	1
4-Bromofluorobenzene	130				•	
TPH (GC/FID) High Fraction	BDL	0.10	mg/l	3510/DRO	11/06/02	1
rrogate Recovery (50-150) o-Terphenyl	58.		% Rec.	3510/DRO	11/06/02	1
lynuclear Aromatic Hydrocarbons		0.0010	mg/1	8270C	11/05/02	1
Anthracene	BDL	0.0010		8270C	11/05/02	1
Acenaphthene	BDL	0.0010	mg/1	8270C	11/05/02	1
Acenaphthylene	\mathtt{BDL}	0.0010	mg/1		11/05/02	ī
Benzo (a) anthracene	BDL	0.0010	mg/1	8270C	11,00,01	_

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Page 5 of 10



Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 08, 2002

ESC Sample # : L94638-02

Date Received : Description

November 02, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

MW-7

Project # : 510200

Collected By Collection Date:

C. Tedder 11/01/02 10:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	11/05/02	1
Benzo(b) fluoranthene	BDL	0.0010	mg/l	8270C	11/05/02	1
Benzo(q,h,i)perylene	BDL	0.0010	mg/l	8270C	11/05/02	1
Benzo(k) fluoranthene	BDL	0.0010	mg/l	8270C	11/05/02	1
Chrysene	BDL	0.0010	mg/l	8270C	11/05/02	1
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	11/05/02	1
Fluoranthene	BDL	0.0010	mg/l	8270C	11/05/02	1
Fluorene	BDL	0.0010	mg/l	8270C	11/05/02	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	11/05/02	1
Naphthalene	BDL	0.0010	mg/l	8270C	11/05/02	1
Phenanthrene	BDL	0.0010	mg/l	8270C	11/05/02	1
Pyrene	BDL	0.0010	mg/l	8270C	11/05/02	1
Surrogate Recovery						
Nitrobenzene-d5	71.		% Rec.	8270C	11/05/02	1
2-Fluorobiphenyl	76.		% Rec.	8270C	11/05/02	1
p-Terphenyl-d14	78.		% Rec.	8270C	11/05/02	1

Tom Mellette, ESC Representative

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 08, 2002

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

L94638-03 ESC Sample # :

November 02, 2002 Date Received : Boeing-Tract 1 South Description

Site ID :

Project # : 510200

MW-A22 Sample ID

Collected By C. Tedder 11/01/02 11:30 Collection Date :

Collection Date :	Result	Det. Limit	Units	Method	Date	Dil.	_
Parameter	Result	Dec. Bruze					
	0.0020	0.00050	mg/l	8021/OA1	11/06/02	1	
Benzene	BDL	0.0050	mg/l	8021/OA1	11/06/02	Ţ	
Toluene	_	0.00050	mg/l	8021/OA1	11/06/02	1	
Ethylbenzene	0.0028	0.0015	mg/l	8021/OA1	11/06/02	1	
Total Xylene	0.011		mg/1	8021/OA1	11/06/02	1	
Methyl tert-butyl ether	\mathtt{BDL}	0.0050	mg/l		11/06/02	1	
TPH (GC/FID) Low Fraction	1.7	0.10	mg/l	8021/OA1	11,00,02	-	
ON1 Surrogate	200		% Rec.	8021/OA1	11/06/02	1	
a,a,a-Trifluorotoluene	100						
				OA2	11/08/02	1	
Extraction Date	11/4/02		/3	OA2	11/08/02	1	
Mineral Spirits	BDL	0.10	mg/l		11/08/02	1	
Kerosene (C9-C16)	BDL	0.10	mg/l	OA2	11/08/02	- 1	
Kerosene (Cy-Cla)	BDL	0.10	mg/l	OA2		÷	
Diesel (C7-C26)	BDL	0.10	mg/l	0A2	11/08/02	<u> </u>	
#6 Fuel Oil (C10-C32)		0.10	mg/1	0A2	11/08/02	1	
Hydraulic Fluid (C12-C33)	BDL	0.10	mg/l	OA2	11/08/02	1	
Motor Oil (C16-C33)	BDL		"G/1	0A2	11/08/02	1	
Misc. TPH (C10-C40)	0.84	0.10	mg/l	UAZ	,,		
Surrogate Recovery o-Terphenyl	75.		% Rec.	OA2	11/08/02	1 .	

ESC Representative Tom Mellette,

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

The reported analytical results relate only to the sample submitted.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dennis Brinkley Harding ESE - St. Louis, MO 3199 Riverport Tech Center Drive St. Louis, MO 63043

November 08, 2002

ESC Sample # : L94638-04

Date Received : Description :

November 02, 2002 Boeing-Tract 1 South

Site ID :

Sample ID

MW-A27

Collected By : Collection Date :

C. Tedder 11/01/02 12:10 Project # : 510200

Tom Mel Dette,

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/1	8021/OA1	11/06/02	1
Toluene	BDL	0.0050	mq/1	8021/OA1	11/06/02	ī
Ethylbenzene	BDL	0.00050	mg/1	8021/OA1	11/06/02	ī
Total Xylene	BDL	0.0015	mg/l	8021/OA1	11/06/02	1
Methyl tert-butyl ether	BDL	0.0050	mg/l	8021/OA1	11/06/02	1
TPH (GC/FID) Low Fraction	\mathtt{BDL}	0.10	mg/1	8021/OA1	11/06/02	1
OA1 Surrogate			٥.	•	., -, -	
a,a,a-Trifluorotoluene	90.		% Rec.	8021/OA1	11/06/02	1
Extraction Date	11/4/02			OA2	11/08/02	1
Mineral Spirits	BDL	0.10	mg/l	OA2	11/08/02	ī
Kerosene (C9-C16)	BDL	0.10	mg/l	OA2	11/08/02	1
Diesel (C7-C26)	BDL	0.10	mg/l	OA2	11/08/02	1
#6 Fuel Oil (C10-C32)	BDL	0.10	mg/l	OA2	11/08/02	1
Hydraulic Fluid (C12-C33)	BDL	0.10	mg/1	OA2	11/08/02	1
Motor Oil (C16-C33)	\mathtt{BDL}	0.10	mg/l	OA2	11/08/02	1
Misc. TPH (C10-C40)	1.3	0.10	mg/1	OA2	11/08/02	1
Surrogate Recovery			_,		• •	
o-Terphenyl	81.		% Rec.	OA2	11/08/02	1

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Laboratory Certification Numbers:

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01

KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233 Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

ESC Representative

Attachment A List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier	
L94638-01 L94638-04	1,1-Dichloroethane Total Xylene	E B	

Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning							
В	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.							
E	GTL (EPA) - Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range.							
	Analysis a Bound Tofornable							

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by

 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

 Control Limits

2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

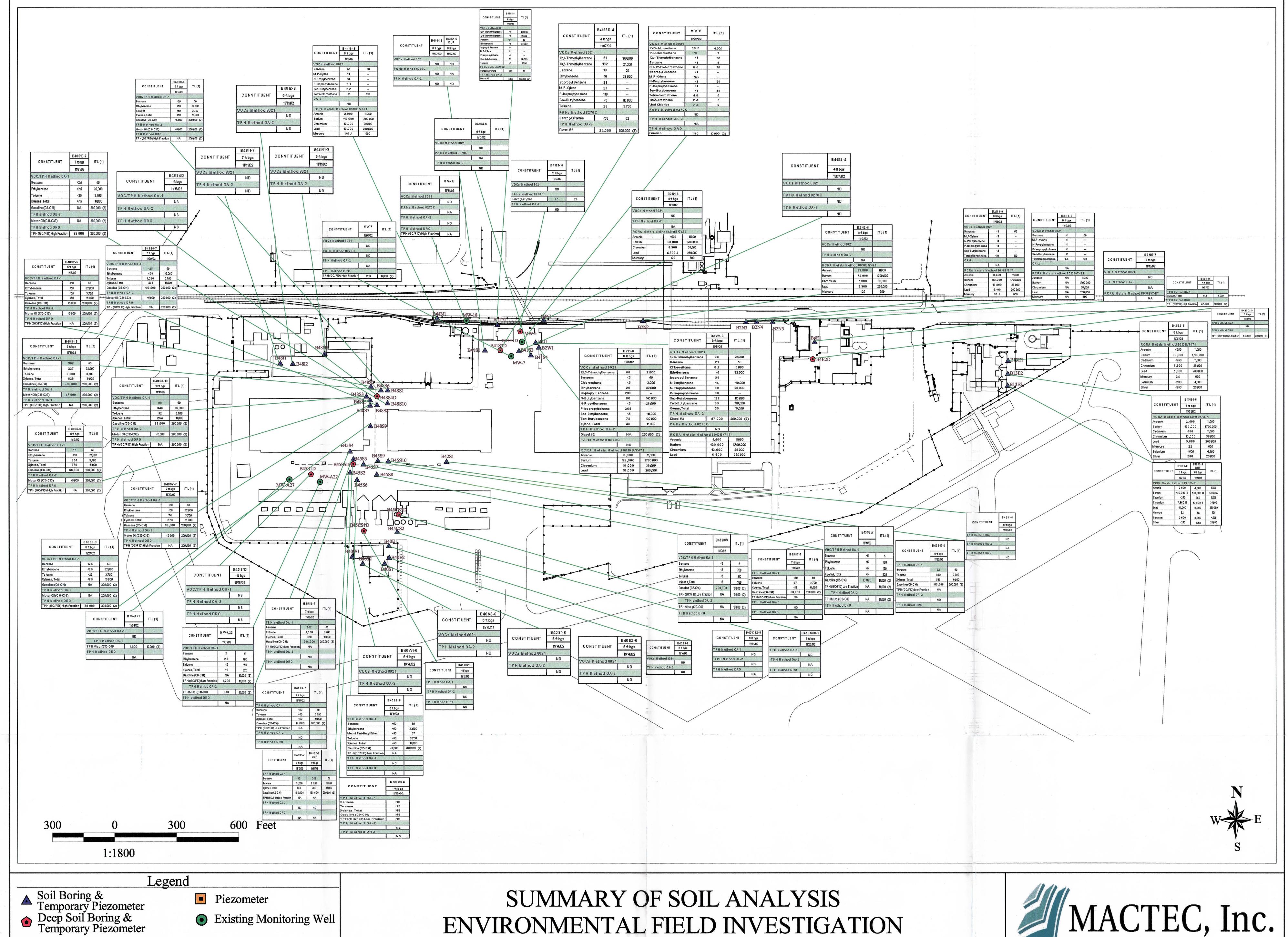
Company Name/Address:	7	Alte	Alternate billing information:				Analysis/Container/Preservative				Chain of Custody	
Company Name/Address: Handing ESE/ 3199 Riverport Md. Hts., MO 6 Report to: Dennis Brinkle	- <u>-</u>	Tel			l-@							CE CORP.
		 	City/Sale	Brink,	On D	<u>cac</u> , a			7ME		Phone (615) 758-5858	
Project Description: Boeing-Trac Phone: 314-209-5900	Client Project #	t:	ESC Key:	4.000	, 140				3		•	00) 767-5859
FAX: -5929	5107	200							9		FAX (6	15) 758-5859
Collected by: C. Tedder	Site/Facility ID		P.O.#:	· · · · · · · · · · · · · · · · · · ·	-				8		ing a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a samu a	u es kantelis domani link om i
Collected by (signature): Septimized Septim	Ne	b MUST Be Name Day	200% . 100%	Date Resul	No_Yes	No.	VOC5 041	042	Q		CoCode Template/Prelogin Shipped Via:	(lab use only)
Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	7 0	0	1- a		Remarks/Contaminant	Sample # (lab only)
	G	GW	J Depair	11			X		4 4	Maria Lista		194638-01
M W 5	6	GW		11/1/02	1025	1	X		X X	1 441 1 441 1 441 1 441		02
M W A 22	6	CW		 	1130	3	<u> </u>	y	<u> </u>			03
	G	CW		1	<u> </u>	3	\ \	14	#116.4 \$2.41			su su
MWA 2-7	10	1 C W	<u> </u>	 	1210	ادا	(463) / (644)	\ \ \	. #24.	TOTAL STATE		
	 			 		10					<u></u>	
	 	 	<u> </u>		 				\$3.50 E			
	 			 	 				1973.1 1943.1	340		
	<u> </u>				 	1.5						
	<u> </u>	<u> </u>	<u> </u>	1	<u> </u>	ļ.,				E. Fr	<u> </u>	
*Matrix: SS - Soil/Solid GW - Gro	undwater WW	- WasteWater	DW - Drin	king Water (OT - Other_		_			рН	Те	mp
Remarks:			. 1	L . J	11			3		Flow	Ot	her
Relinquished by: (Signature)	Date:	Time: 15;	15 /	Ped th: (Sign	ivie)			\$an	nples returned edEx 🛚 Cou	l via: □ ups rier □	Condition:	(lab use only)
Relinquished by: (Signature)	Date			vey by: (Signa	ature			Ten	np:	Bottles Receive	ed:	84
Relinquished by: (ature)	Date	: Time:	Rece	ived for lab t	oy: (Sig	e)	i de la compania del compania del compania de la compania del compania de la compania de la compania del compania de la compania de la compania de la compania del compania	Da	te: _?a.7	Time:	pH Checked:	

TON

ENVIRONMENTAL SCIENCE CORP.

SAMPLE NON-CONFORMANCE FORM

Sample No. :	<u> 194638</u>		
Date:	11-2-02		
Evaluated by	y: Jasen		
Client:	HARDMO		
Non-Conform	nance (check applicable items)	,	
	Chain of Custody is missing Improper container type Chain of custody is incomplete Parameter(s) past holding time Broken container(s) see below Insufficient packing m		Login Clarification Needed Improper preservation Container lid not in tact Improper temperature Broken container: sufficient sample olume remains for analysis requested and container
Comments:	Insufficient packing m Improper handling by Sample was frozen Which TPH?		
Login Instruc	tions:	T	SR Initials:
Client contact	the mail of the state of the st	date: _//	4.02 time: 952
			

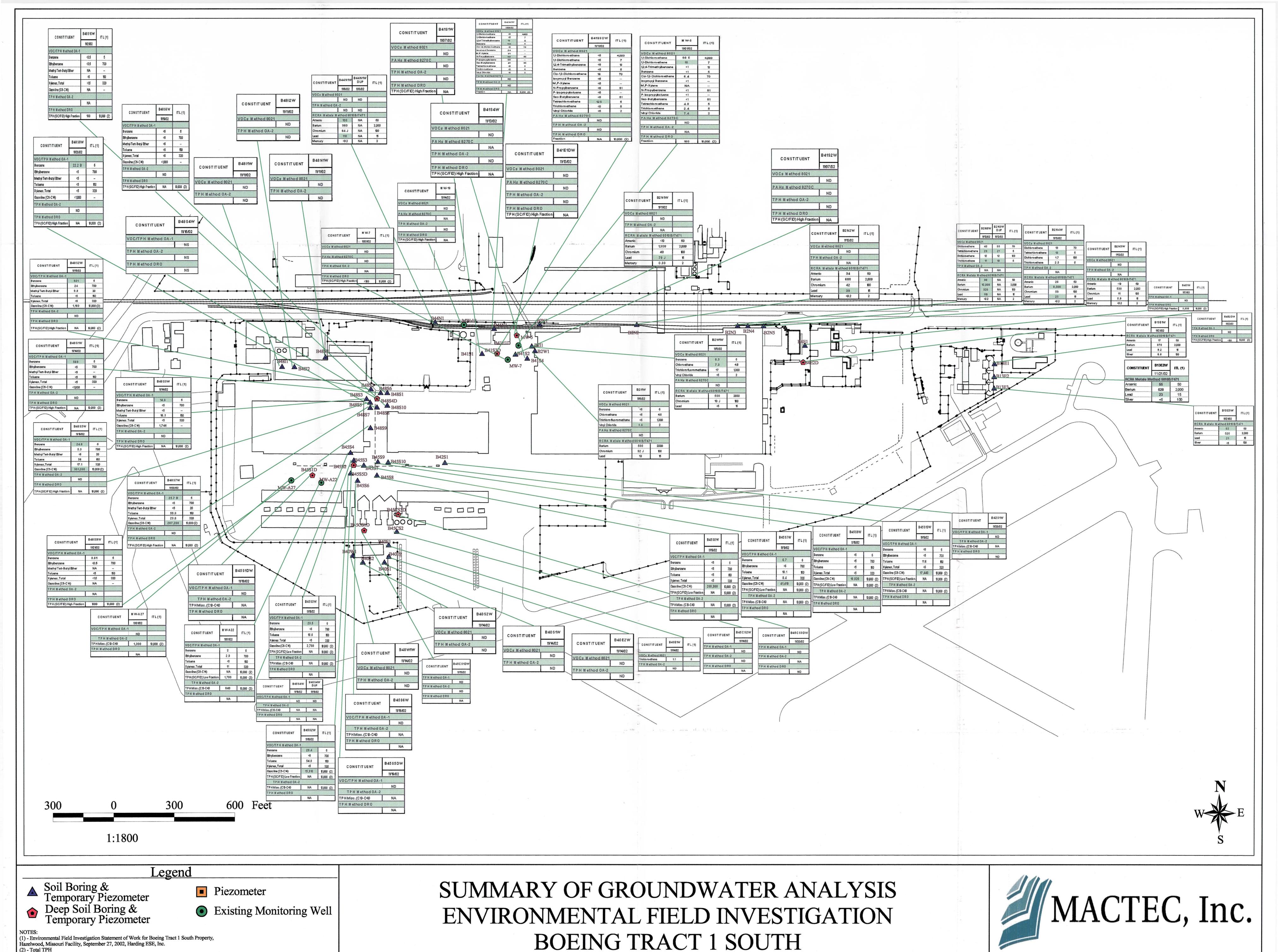


(1) - Environmental Field Investigation Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc. Constituent Concentrations in Micrograms Per Kilogram (ug/kg)

p:\1_gis\510200\apr\021223.apr

ENVIRONMENTAL FIELD INVESTIGATION BOEING TRACT 1 SOUTH





Constituent Concentrations in Micrograms Per Liter (ug/L)
p:\1_gis\510200\apr\021223.apr